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YOU *and* YOUR MONEY



MABEL B. TRILLING
PROFESSOR OF HOME ECONOMICS EDUCATION
CARNEGIE INSTITUTE OF TECHNOLOGY

FLORENCE WILLIAMS NICHOLAS
HOMEMAKER



J. B. LIPPINCOTT COMPANY

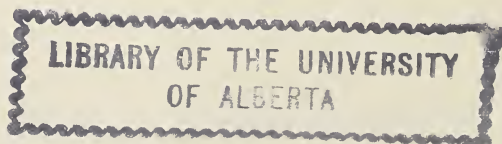
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PREFACE

THIS BOOK is intended as a text and reference for secondary school students in their beginning study of consumer education. The authors believe that the most natural and effective method of organizing introductory consumer education is through a study of everyday consumer commodities which students buy and use. Both young people and adults are first interested in the consumer problem as it touches their personal buying experiences. It is for this reason that the authors have chosen to organize this book in terms of everyday consumer commodities.

A limited number of typical consumer goods have been selected for study. They range from nickel soft drinks and ice cream cones to hundred-dollar kitchen ranges and living room rugs. Obviously, it is not possible nor desirable to study *all* the consumer commodities which consumers may buy. The book includes an arbitrary selection of several types of consumer goods, including food, clothing, cosmetics, and home furnishings. The study of quality and comparative values in these commodities should help the student to recognize quality and value in other similar types of goods. Discussion of certain types of consumer expenditures, such as housing, education, recreation, and security for old age, have been purposely omitted, because the authors believe these topics are better suited to a more advanced study of the consumer problem. The purpose here is to organize consumer education materials for an introductory and foundational course.

The scheme of organization is meant to accomplish much more than merely direct the student's attention to the physical characteristics of certain articles of food, clothing, cosmetics, and house furnishings. Any introductory study of consumer problems should do much more than help the student to distin-

guish between a good apple and a poor apple, or to detect the difference between a wool blanket and a cotton blanket. Although attention is focused upon the commodities themselves, yet provision is made for other types of consumer learning. These objectives may be described briefly as follows:

1. Students should acquire a critical attitude with regard to qualities and values in consumer goods. Many are prone to accept whatever is offered to them at face value. They are susceptible to high-pressure salesmanship, social pressure, and "super" advertising.

2. Students should acquire some definite concepts about standards of quality. Many do not know good quality in consumer goods because they have no opportunity to become acquainted with good workmanship or materials. Others do not set a value on good quality. They fail to realize the importance of good quality in the goods which their money buys for them.

At this point the book fails to provide adequate materials for study, because no book can incorporate within its covers real candy bars, round steak, toilet soap, and electric irons! The study of the book should be supplemented with the study of real materials. Whenever possible, teachers should provide for actual examination of commodities either in the classroom or elsewhere. Understanding of quality is greatly facilitated by the opportunity to see, taste, feel, or smell, as the case may be.

Students should become acquainted with available consumer aids and learn to use them. Their study of commodities will introduce them to such consumer aids as the Federal Food, Drug, and Cosmetic Act; Trade Practice Rules by the Federal Trade Commission; the Wheeler-Lea Act; the National Bureau of Standards; the American Medical Association; the American Dental Association; the American Gas Association; the Underwriters' Laboratories; and other agencies which provide consumer help.

3. Students should learn something about the production, manufacture, distribution, and retail handling of consumer commodities. These processes have a definite bearing on the quality of the product which the consumer receives and the price he

pays. Such study forms a nucleus of understanding for the consumer's relationship to the whole economic scheme.

4. Students should develop techniques and habits of obtaining and using all available consumer information and help. The consumer quizzes at the beginning of each chapter and the "Suggestions for Discussions and Activities" and "Your Consumer Investigations" at the end of each chapter are designed to promote this type of learning. The teacher will also take advantage of any current situation which can be turned into a consumer-learning experience.

The major portion of the book is given over to the study of consumer commodities, but the last chapter is devoted to the personal money management problem. The discussion in this chapter is intended to show the student how his personal choices may bring him more or less of lasting satisfaction. The discussion also includes a brief treatment of installment buying.

This book is based on a conviction that consumer education should begin with a simple and practical study of things which we buy and use, and that the study should be organized so as to introduce the student consumer to various aspects of the consumer problem.

M. B. T.
F. W. N.

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INTRODUCTION

YOU ARE A CONSUMER! Almost everyone who lives in the modern, civilized world is a consumer. Your friends, your neighbors, your families are all consumers. Why are we all consumers? Because we cannot possibly produce all the goods which we use. We buy goods of many kinds—food, clothing, furniture, cosmetics, and lead pencils—because we cannot make them ourselves. We buy from people who can make them—the producers. All producers are also consumers. You may produce one kind of consumer goods, but you must buy many other kinds which you cannot produce.

What do you know about the consumer goods that you buy? Do you know how to get your money's worth? Do you know how to select good quality shoes? Do you know how to choose good toothpaste? Do you know the difference between good and poor oranges? Do you understand the hidden values in your davenport? There are hundreds of such questions which the well-informed consumer should be able to answer. How are consumers to learn the answers? Some have learned by sad experience. They have paid for their mistakes out of their own pocket-books.

Consumers need many facts. They need to know about food values, about qualities in fruits and vegetables and meats, about bacteria-count and butterfat in milk, and about air in ice cream. They need to know about thread count and fiber and fit in clothing. They need to know about high-carbon steel in kitchen knives, about dirt containers in vacuum cleaners, and about dowel joints in furniture. There are hundreds of facts which consumers should know. Their business is buying goods for their own needs. To buy intelligently they should know how to

detect values that are visible to the eye, and they should know how to ask questions about values that are hidden from the eye.

Consumers should also know what consumer aids are available to them. They should know how the government protects their interests. Do you know what federal and state laws protect your health and your pocketbook? Consumers should also know what organizations are reliable aids in buying.

All this and much more is part of your consumer education. Some consumers learn how to buy intelligently by experience, but this is a long, expensive process. Others never learn. Why should we not take time for careful study of a problem so vital to our welfare? Schools recognize this need and now include consumer education in the school program.

~ I ~

A NICKEL FOR ICE CREAM, CANDY, OR POP

AMERICAN boys and girls buy more ice cream, candy, and soft drinks than the boys and girls of any other nation in the world. Millions of nickels are spent every year in the United States for ice cream cones, candy bars, and soda pop. Probably every boy and girl who reads this page has spent several nickels for these sweets. Undoubtedly you will spend many more nickels for cones, candy bars, and cold drinks.

What do you think about when you buy an ice cream cone? The flavor? The size of the dip? What do you look for when you select a candy bar from the counter? A fancy wrapper? Lots of chocolate? Or nuts? How do you decide whether to drink root beer, orange pop, or ginger ale? Do you think only of the flavor you like best?

When you spend a nickel for ice cream, candy, or pop, you wish to get the most you can for your money. Naturally, you will choose a flavor that is agreeable, or you will not enjoy your selection. Some people think no further than this when they spend their nickels for this kind of refreshment. Others may think of the amount which each nickel will buy. If they find that one store gives a bigger ice cream cone than another for a nickel, they will buy at the one which gives more for the money. What else is there to consider when you spend your nickel for ice cream, candy, or pop? Most people do not think about other very important things, when they spend their nickels. As you read this chapter you will see how important it is to know about many things before you spend even one nickel for ice cream,



Courtesy National Dairy Council

An ice cream cone is as good to eat as it looks.

candy, or pop. First, try the following Consumer Quiz to test your knowledge. (*Do not write in the book.*)

CONSUMER QUIZ

1. Which ingredient is found in all three of these—ice cream, candy, and pop?
Carbonic gas Lecithin Gelatin Sugar
2. Air is sometimes used to adulterate ice cream. True or false?
3. Calcium is a good bone and teeth builder. Is ice cream, candy, or pop the best source of calcium?
4. The Federal Food, Drug, and Cosmetic Act does not protect you from candy which is dirty and made under un-

sanitary conditions if the candy is made and sold in your own town. True or false?

5. What is the chief food value of sugar?
Iron Vitamin B Quick energy Muscle builder
6. The principal difference between hand-packed and ready-packed ice cream is in the quality of the ingredients. True or false?
7. What per cent of cream is ice cream likely to contain?
14% 34% 54% 74% 94%
8. Carbon dioxide in soft drinks helps to make them:
More nutritious Pleasant to take Cheaper
9. A candy bar is frequently better value for your money than bulk candy. Why?
More candy for your money More hygienic handling
Better quality ingredients More likely to be fresh
10. Which gives you the most food value for a nickel—a candy bar, a soft drink, or an ice cream cone?

ICE CREAM—WHAT'S IN IT?

The basic ingredients of all ice creams are milk, cream, and sugar. Gelatin is very often included in the ice cream mix. Sometimes eggs are added. Flavors, such as vanilla, chocolate, strawberry, and fruits or nuts are used to produce variations of many kinds.

Different combinations of the basic ingredients—milk, sugar, and cream—result in different qualities of ice cream. Good ice cream has a high milk-solids content. Average milk is about $87\frac{1}{2}$ per cent water and $12\frac{1}{2}$ per cent solids. To make good ice cream manufacturers use condensed milk, that is, milk from which some of the water has been removed. For example, when enough water is removed from milk to reduce the volume by one third, then the milk will contain $37\frac{1}{2}$ per cent solids. If you have examined the contents of a can of condensed milk bought at the grocery store, you know that it is much thicker than bottled milk. This is because much of the water has been removed, thus leaving a higher content of milk solids. Too much water in an ice cream mix

makes the ice cream seem rather like snow. It is watery and melts very quickly. Ice cream with a high solids content has a heavy body and seems to be "chewy."

Good ice cream should contain about 35 per cent to 40 per cent total solids. These solids are not all milk solids. They include the cream and sugar. The amount of cream put into the mix has a great effect upon the quality of the ice cream. The very name, ice cream, implies that there is cream in the mixture. There are legal requirements in every state which specify the minimum amount of butterfat for ice cream. These requirements vary from 8 per cent to fourteen per cent in different states. However, you may find considerable variation in the amount of butterfat in the different ice creams sold in your community. Some will contain more than the amount specified by the state law. Probably you cannot analyze the ice creams to find out how much butterfat each one contains, but you can judge to some extent by taste and texture. High butterfat content produces smooth, fine-textured ice cream, which is rich and a delicate gold in color. The federal government will not buy ice cream unless it contains 12 per cent by weight of butterfat in plain ice creams, and 14 per cent by weight of butterfat in French ice creams and frozen custards.

Fresh, sweet cream is very important to the flavor of ice cream. Slightly off-flavor ice cream may be the result of cream not strictly fresh and sweet.

There are no laws which specify the amount of sugar required in ice cream, but the general practice is about 15 per cent of sugar. The federal government will not buy it unless it has 14 per cent sugar by weight.

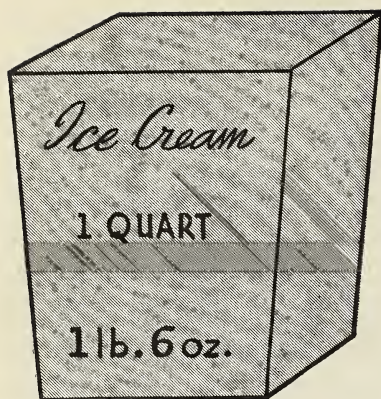
A small amount of gelatin is used by many manufacturers of ice cream. They believe that it helps to keep the ice cream firm and to make it smooth and pleasant to the tongue. However, too much gelatin makes the ice cream "slick" and "livery" and is probably used to conceal a too-high water content. The usual amount of gelatin used is less than one-half of one per cent.

HOW MUCH ICE CREAM IN A QUART?

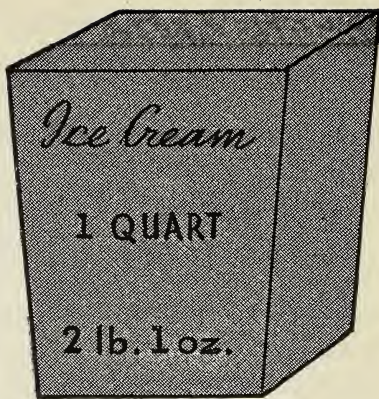
Do all quart containers of ice cream contain the same amount of ice cream? *No*, they do not. Quarts, pints, and gallons are measures of volume. Compare two quarts of ice cream in identical containers. Both containers are filled to the brim, yet one contains more ice cream than the other. Lift them, and you will find that one quart is heavier than the other. Obviously, the heavy quart contains more ice cream. The lightweight quart contains more air. Some air in ice cream is necessary in order to make it palatable, but too much air is not desirable, especially when you are paying for it. When the ice cream mix is frozen it must be whipped or agitated in order to make it creamy and smooth. In the days of our grandmothers, it was necessary to turn the handle of the ice cream freezer until the mix was well whipped. In these days modern machinery in the ice cream factory does it for you. Of course, a manufacturer can put as much air into his ice cream as he wants to. Experts consider that good ice cream should contain not more than 50 per cent air. That is, a gallon of ice cream is whipped until when frozen it becomes two gallons of ice cream. The extra gallon of ice cream is really air. This process of beating air into ice cream is called the "overrun." The federal government will not buy ice cream if the "overrun" is more than 100 per cent, that is, when the ice cream is more than one-half air. Every gallon of ice cream bought by the federal government must weigh at least $4\frac{1}{2}$ pounds, or 1 pound and 2 ounces per quart, or 9 ounces per pint. The consumer can also use this standard. The next time you buy a pint or a quart of ice cream weigh it. If you do not have scales at home, you can have it weighed at the store. Some manufacturers print the weight of the quart on the container, and buyers should always read the label to see if it gives this information.

WHY NOT BUY ICE CREAM BY THE POUND?

The "Ready-Pakt" or "Jiffy" packages of ice cream are always priced lower than hand-packed packages of the



33¢



50¢

Weight is important. Each of these cartons holds a quart of ice cream.
Which quart is better value for your money?

same size. These machine-packed packages always contain more air and less ice cream than hand-packed packages. Since air costs nothing, the manufacturer can sell the light-weight package at a lower price. It is always worth while to figure out whether the ice cream for sale in your stores is cheaper in the factory-packed or the hand-packed cartons. In order to do this you must know the weight of each type of package. This problem is shown in the diagram above. In this case the hand-packed ice cream is \$.50 per quart, and the quart weighs 2 pounds and 1 ounce or 33 ounces. Therefore, each ounce costs a little more than $1\frac{1}{2}$ cents. The ready-packed quart costs \$.33 and weighs 1 pound and 6 ounces or 22 ounces. Each ounce costs exactly $1\frac{1}{2}$ cents. This means that the factory-packed ice cream is a trifle less expensive per ounce or per pound. In many cases you will find a much greater difference in the cost of factory- and hand-packed ice creams. Sometimes one and sometimes the other is a better value for the consumer.

The same ice cream mix may be used for both the hand-packed and factory-packed ice creams. When the mix has been frozen so that it is the consistency of whipped cream, it is ready for the container in which the final freezing process

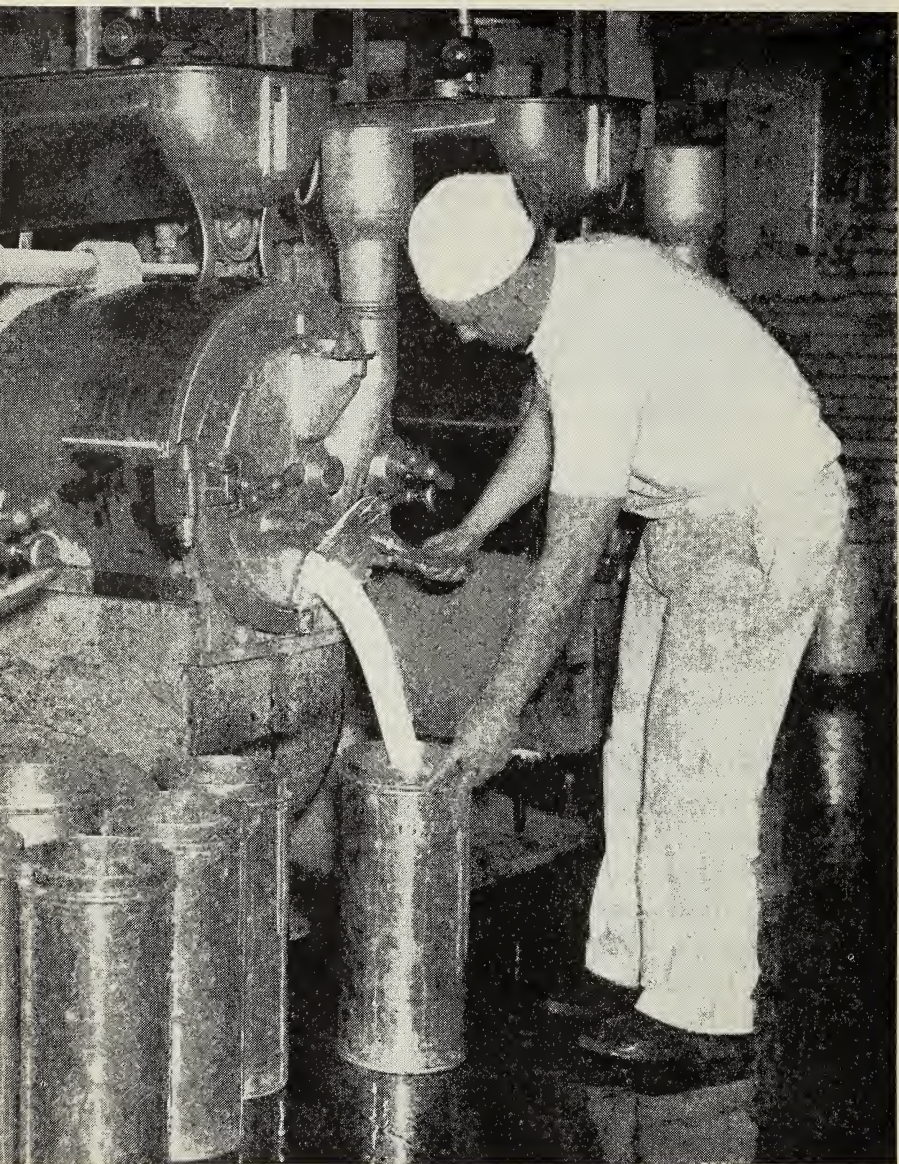
is carried out. If the ice cream is to be sold in bulk it is put into sterilized cans. After the cans are filled they are put into the hardening room where a temperature below zero is maintained at all times. If the ice cream is to be sold ready-packed, the mix is put directly into gallon, quart, pint, or smaller-sized containers. So far the mix and processes have been identical. How then is some of the air removed from the hand-packed quart of ice cream? Simply by the process of packing it into the container. The pressure of the scoop as it presses the ice cream down into the carton squeezes out some of the air. Therefore, a quart packed by hand will weigh more than a quart of the same mix packed by machine.

HOW PURE IS YOUR ICE CREAM?

Some people prefer the ready-packed ice cream because there is no chance for dangerous germs to get into it after it leaves the factory. After leaving the manufacturer's plant, ice cream is often not handled hygienically. Many ice cream dealers are not well equipped to handle ice cream. The refrigeration should be good and the surrounding cabinets clean. The salespeople who handle the ice cream should be clean and neat. The picture on page 10 shows a clean and well-arranged dairy bar where thousands of ice cream cones are sold every month. Note the glass shelf which prevents the buyers from getting too close to the ice cream. There is little chance for germs from dirty coat sleeves or sneezing customers to reach the ice cream. Sliding covers can be pulled over the ice cream when desired.

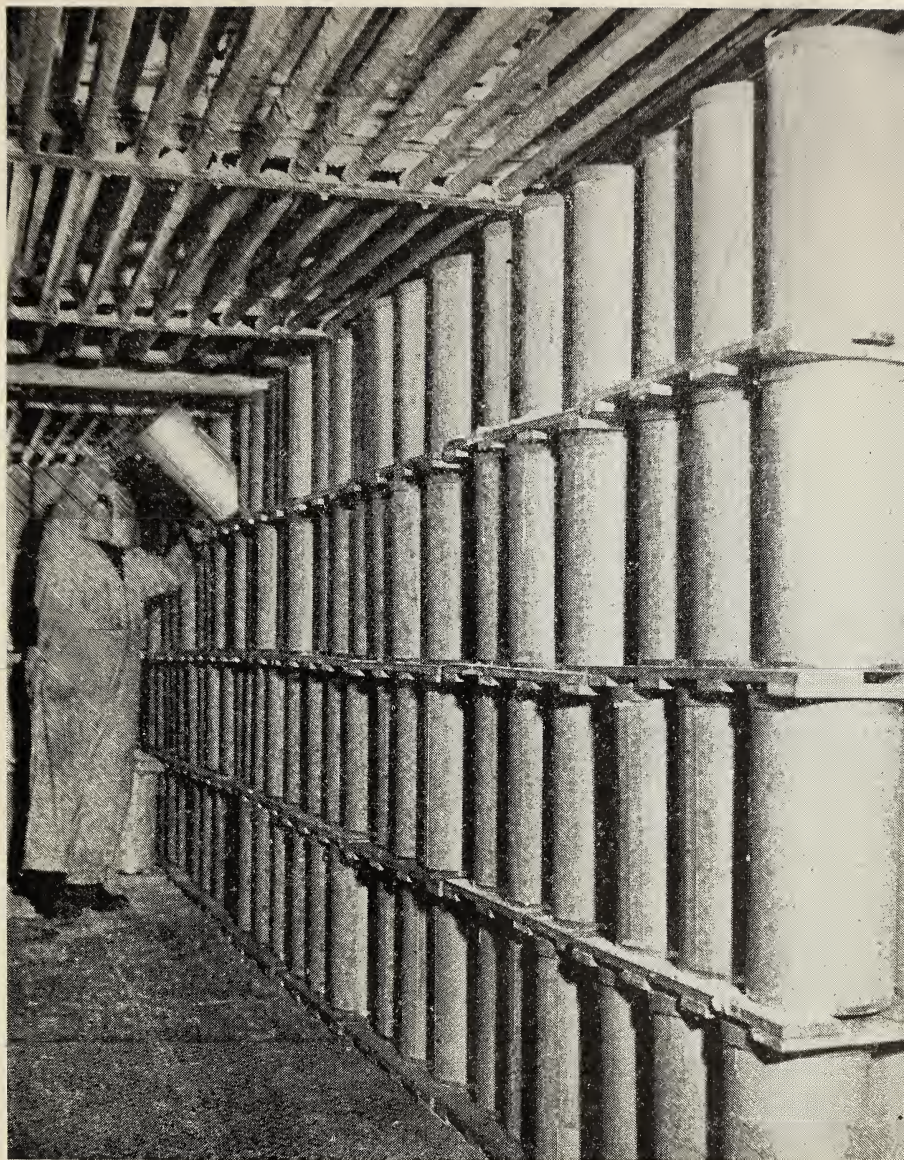
The cabinet which holds the ice cream cans is a large refrigerator. Melting and rehardening of ice cream destroys its nice texture, causing crystallization or a "sandy" taste.

Clean and wholesome ingredients, as well as sanitary handling, are necessary to the purity of ice cream. Milk and cream should always be pasteurized. The process of pasteurization—named for the great scientist Louis Pasteur—kills the most harmful bacteria. Serious diseases, such as tubercu-



Courtesy National Dairy Council

Partly frozen ice cream mix is put into sterilized cans ready for the hardening room.



Courtesy National Dairy Council

The final step in the manufacture of ice cream is hardening in a room kept at a temperature below zero.



Courtesy The Isaly Dairy Company

Ice cream should be bought in a clean and sanitary store. Hygienic handling helps to keep your ice cream safe.

losis, undulant fever, and typhoid, may be carried by milk. Unfortunately, you cannot see these dangerous germs in a big, beautiful ice cream cone. Your best safeguard is to eat ice cream made from pasteurized milk and sold in a sanitary store. Pasteurization means that the milk is heated to a temperature of 140° to 145° and held at that temperature for from 20 to 30 minutes. Next it is cooled rapidly to a temperature of 40° . Sometimes the milk is pasteurized before the other ingredients are added, but more often the ice cream mix is pasteurized.

The purity of ice cream is controlled by state laws and by city ordinances. Most regulations say that one cubic centi-

meter of ice cream may not contain more than 50,000 bacteria. There is no federal law which regulates ice cream manufacture, but for its institutions the federal government will not buy ice cream which contains more than 50,000 bacteria per cubic centimeter. In some cities you can buy ice cream by grades. These grades depend upon the bacteria count, that is, Grade A will have a smaller bacteria count than Grade B.

Most of the flavors used by manufacturers are pure. The federal government will not buy artificially flavored ice cream, but artificial colorings may be used, provided that they are certified by the Food and Drug Administration.

IS THERE FOOD VALUE IN AN ICE CREAM CONE?

Everyone knows that milk is an essential food. It is sometimes called the most nearly perfect food because it contains nearly everything necessary for a good diet. Milk is a good food for building muscles, bones, and teeth. Since ice cream contains considerable milk, there can be no doubt about its food value. Is it not lucky that your delicious ice cream cone is considered good food? Your nickel for ice cream buys food which is both good for you and good to eat.

CANDY—WHAT'S IN IT?

In 1940 there were $2\frac{1}{4}$ billion pounds of candy sold in the United States. If this amount had been equally divided, it would mean that each person in the United States ate 16.9 pounds. However, some people ate much more and some much less. It might be interesting to figure out how many pounds you ate last year. If you ate one chocolate bar a week you ate more than 6 pounds!

There are many kinds of candies—jelly beans, chocolate creams, taffy, nut rolls, and others—but in all of them the basic ingredient is the same. Sugar is the chief ingredient in all candies. When you buy a nickel's worth of candy, you

get mostly sugar cooked in a special way, with chocolate, flavoring, fruits, nuts, eggs, butter, or other ingredients added.

The quality of candy depends upon the manner in which the ingredients are combined and on the quality of the ingredients. If good, fresh butter is used, the candy will be superior to candy made with cocoa butter or some other fat. If the ingredients are of good quality and are properly combined, the candy is of good quality. For example, chocolate creams may be well covered with thick chocolate and have smooth and creamy centers, or the chocolate coating may be thin and the centers "grainy" or "chalky." Be critical of the candies which you eat. Compare their qualities and learn to judge for yourself.

Read the labels on your candy-bar wrappers. Find out what's in your candy bar. You will know most of the ingredients, such as sugar, corn sirup, chocolate, and butter. In many cases you will find lecithin listed as an ingredient. Lecithin is a harmless substance used to thicken and harden the chocolate.

Read the labels also to find out how much candy you get in your candy bar and to see who makes it.

The quality of some types of candy is affected by the length of time it is stored before it is eaten. Peanut butter and nuts may become rancid if the candy is stored too long. Fudge candies lose their creaminess soon after being made, and caramels become "grainy." However, chocolate creams are improved by storing for a few weeks in a temperature of 50 ° to 60 °. One large manufacturer of candy bars insists that every candy bar leave the factory the same day it is made. Thus, the candy will reach consumers more quickly.

Five-cent candy bars constitute a large part of the candy business in the United States. About forty per cent of all the candy sold is in the form of wrapped bars. Most of this business has grown up since the First World War. If you have found that you cannot buy a candy bar whenever you like because of the sugar shortage in the Second World War, re-

member that before the First World War, almost no candy bars were made. Thirty-eight per cent of the candy business is in bulk goods, that is, in candy which is sold by the pound and carried home in a sack or plain box. Twenty per cent of the candy business is in penny goods, that is, penny lollipops or a handful of jelly beans for a penny. One per cent of the candy business is in fancy packaged goods—candy that is packed in special boxes at the factory or by the dealer. It is worth while to think about the form in which you buy your candy because it may affect the purity of your candy.

HOW PURE IS YOUR CANDY?

No matter how good your candy tastes, you do not want it contaminated with germs and filth. Unfortunately, you cannot see dangerous bacteria or some kinds of dirt which candy may contain. All candy should be made from clean materials in sanitary surroundings, and it should be protected from filth and bacteria, from the factory to the consumer.

Candy bars are well protected from contamination because they are wrapped at the factory and sold wrapped to the consumer. Bulk goods and penny goods are very often exposed to germs and dirt. It is a common sight to see large trays filled with candies placed on counters where customers lean over them, cough and sneeze on them, and even handle them. Dust and dirt settle on them. Storekeepers who are crowded for space often take this means of displaying their candies. This is particularly common during such seasons as Halloween and Christmas when many special candies are sold. All candies should be kept under cover in retail stores. Glass showcases should be provided for candy display.

In many places state laws and city ordinances prohibit the display of such foods as candies or bakery goods in such a manner that they may become contaminated with dirt or germs. However, these laws are frequently not well enforced, and stores continue to pile their candies on tops of counters and showcases. You are fortunate if you live in a community

where these laws are well enforced. Remember you do not have to buy candy which has been displayed uncovered on the top of a counter.

PROTECTION BY THE FEDERAL GOVERNMENT

In 1938 Congress passed a law which is tremendously important to every consumer in the United States. It is called the Federal Food, Drug, and Cosmetic Act. It protects both the health and the pocketbook of the consumer, and you will learn a great deal about it as you study consumer problems.

The first thing to remember about this law is that it applies to food, drugs, and cosmetics which are sold only in interstate commerce. This means that if the product is manufactured in one state and sold in another state, it comes under the jurisdiction of the Federal Food, Drug, and Cosmetic Act. If the candy which you buy is manufactured outside your state, it is under the control of this Act. If your candy is made in your own city or state, it is under the control of a state law or city ordinance. Most states have pure food and drug laws which are patterned after the federal law. Of course any law, whether city, state, or federal, may not be well enforced, but consumers have a right to expect that it will be.

Now let us see how the Federal Food, Drug, and Cosmetic Act has been applied to the manufacture and sale of candy. The law is administered by the Food and Drug Administration which is a division of the Federal Security Agency. Inspectors from the Food and Drug Administration examine food, drug, and cosmetic commodities which are sold in interstate commerce. When they find a product which does not measure up to standards set by the law, the shipment is seized. The articles are then under the jurisdiction of the federal courts. The manufacturer may then appear before the court and agree that the articles do violate the law, or he may contest the seizure. Sometimes he does not appear at all. In cases in which the products are dangerous to health,

the court will order them to be destroyed. In cases in which the products are safe but are wrongly labeled as to contents or weight, they may be given to a charitable institution, returned to the owner, or sold by a United States marshal.

The Food and Drug Administration publishes a record of the cases instituted in United States District courts, which is called "Notices of Judgment Under the Federal Food, Drug, and Cosmetic Act." In July, 1942, the Food and Drug Administration reported the seizure of twenty shipments of candy. Two of these cases are described below.

2532. Adulteration of candy. U.S. v. 4 boxes, and 3 boxes of candy (and 2 other seizures of candy). Default decrees of condemnation and destruction.

Examination showed that this product was contaminated with rodent hairs. Portions also contained insect fragments, metal and paint fragments, and wood splinters. . . .

The article was alleged to be adulterated in that it consisted in whole or in part of a filthy substance; and in that it had been prepared under insanitary conditions whereby it might have become contaminated with filth.

On June 19 and September 15, 1941, no claimant having appeared, judgments of condemnation and destruction were entered and the product was destroyed.

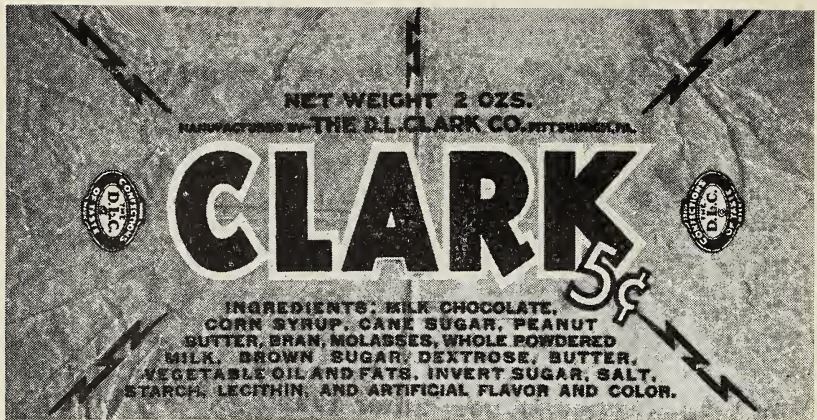
2539. Misbranding of chocolate covered cherries. U.S. v. 18 cartons of candy. Default decrees of condemnation.

Examination showed that the boxes of candy contained two layers of chocolate-covered cherries in paper cups, the pieces separated by cardboard dividers which extended $\frac{1}{4}$ inch beyond the candy on both sides of the boxes. The spaces for the individual candies were larger than necessary. . . .

The article was alleged to be misbranded in that its container was so made, formed, or filled as to be misleading.

On June 13, 1941, no claimant having appeared, judgment of condemnation and forfeiture was entered and the product was ordered distributed to charitable institutions.¹

¹ "Notices of Judgment Under the Federal Food, Drug, and Cosmetic Act." Food and Drug Administration. Federal Security Agency. July, 1942. Pp. 300-301, 303.



Courtesy The D. L. Clark Company

What's in your candy bar? The label on this candy-bar wrapper complies with the requirements of the Federal Food, Drug, and Cosmetic Act. The net weight, ingredients, and manufacturer's name are given.

These two violations of the law show us two different ways in which we may be deceived in the candy we buy. Certainly we do not wish to eat mouse hairs or cockroaches in our candy. Neither do we like to buy a box of candy which is only partly filled. We should be thankful for the Federal Food, Drug, and Cosmetic Act which protects us from purchasing such undesirable candies.

This law also protects us in another way. It requires the name of the manufacturer or distributor to be printed on the label of every product. It also requires the label to state the weight or measure of contents in the container and the common names of all ingredients. Read the label printed on the candy-bar wrapper above to see how well the manufacturer has met these requirements. The law says that no statement may be false or misleading, and that it must be stated in terms which the ordinary consumer is likely to understand.

WHAT FOOD VALUE IN YOUR CANDY BAR?

Since sugar is the chief ingredient of a candy bar, food value is determined mostly by the sugar content. Sugar is one

of the food materials which is a source of energy. Sometimes sugar is called a “quick-energy” food, because it reaches the blood faster than any other food. This may sound as though we should eat a great deal of sugar in order to have plenty of energy. However, too much sugar is not good for us. It is irritating to the body tissues. Have you ever eaten something very sweet when you had a cavity in your tooth? If so, you know that sharp pain results from allowing sugar to reach the sensitive tooth. Candy bars and other sweets should not be eaten at a time when they will spoil the appetite for a wholesome meal. Some nutrition experts say that sweets should be eaten only after a meal. Too much candy is unwise for another reason. Sugar not used immediately by the blood is stored in the liver in a form called glycogen. When the sugar in the blood stream is exhausted, more fuel is supplied by the liver. If more sugar is eaten than can be stored in the liver, it is transformed into fat and is stored in the body tissues.

During the Second World War emergency rations for soldiers included a chocolate bar. This bar was made to fit the soldier’s shirt pocket, and was to be eaten only when the soldier was in great need of food and had no other way of securing it. These bars were high in energy value and made so that they would not melt in a temperature of 120 degrees. A soldier lost in the tropics could not eat his chocolate bar if it had melted in his pocket! These bars were not very good to taste because soldiers might be tempted to eat them for candy instead of saving them for an emergency.

WHAT IS IN YOUR BOTTLE OF SODA POP?

Carbonated beverages are made from water, sugar, flavoring, and carbon dioxide gas. Very often coloring is added to improve the appearance of the drink.

The labels on many bottles of pop state the ingredients. In some states this is required by law. Always *read the label* on your soft drink to see what it contains. Water and sugar are

familiar articles of diet. Sometimes you will find the term "invert sugar" on the labels of soft drinks or candy bars. This means that the sugar has been predigested. Invert sugar is quickly and easily assimilated by the body.

The flavoring in your soft drinks may be fruit juices, root juices, or fruit acids. The most commonly used fruit acids are citric and tartaric, and you should remember that they are not real fruit flavors but are artificial or synthetic. Citric acid is generally made from lemons, and tartaric acid is made from grapes. Most states have laws requiring labels on soft drinks to state that they contain artificial or imitation flavoring. Always read the label on your soft drink to see whether it contains real or artificial flavoring.

Many soft drinks contain artificial coloring which is added in order to make them more pleasing in appearance. These artificial colorings are frequently made from coal tars. Coal-tar coloring may not be used, however, unless it is certified and approved as harmless. This is required by the Federal Food, Drug, and Cosmetic Act and by state laws. In the state of Pennsylvania, certified coal-tar coloring may be used in soft drinks with one exception: No artificial color may be added to orangeade or orange drinks which may tend to mislead the public by imitating the natural juice of an orange. Caramel is a harmless coloring used in many soft drinks. It is not artificial because it is made by heating dry sugar. Probably you are familiar with caramel flavor and coloring in candies and cake frostings.

Carbon dioxide gas is the ingredient that puts the bubbles and sparkle into your soft drinks. It puts the fizz into your ice cream soda. Carbon dioxide gas is made today as a by-product of molasses, coke, and mineral springs. In the early days of its use for soft drinks, it was made from bicarbonate of soda, which is common baking soda. In this way the term "soda water" came into use. Soda pop and ice cream soda are terms which we still use.

Carbon dioxide gas makes our soft drinks much more pleasant and agreeable to the taste, and it is useful in many

other ways. In frozen form it makes the dry ice which is used for packing ice cream. In 1942 soda pop went to war. Many life-saving devices—rubber lifeboats, life vests, and airplane water wings—were inflated with “soda-pop” gas. Many men owe their lives to this gas. It can be compressed into a very small space. Thus, a very small cylinder of gas, easily carried in emergency equipment, can inflate a lifeboat in only a few seconds.

HOW PURE IS YOUR SODA POP?

Most manufacturers of carbonated beverages take great care to keep their products clean and free from disease germs. Pure water is the only guarantee against water-carried diseases. Other ingredients must be clean, and the equipment must be sanitary. Bottles should be washed and sterilized. Bottle caps should be free from dust and germs. All this is carefully done in modern bottling plants.

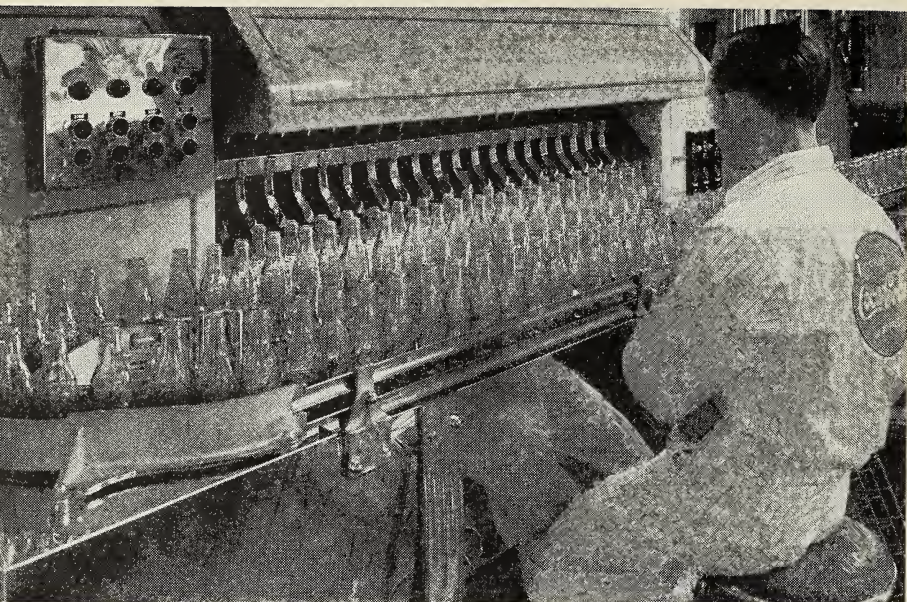
Many manufacturers of soft drinks realize their responsibility for providing us with clean, pure beverages. Members of the trade association, American Bottlers of Carbonated Beverages, are pledged to observe the following rules.

(1) *General external appearance of building to be neat. Bottling plant at all times to be kept clean and well ventilated. Floors to be of material impervious to water and to be flushed daily. Syrup room to be kept clean, well-ventilated and properly screened. Lavatories, toilets, etc., to be kept clean and in separate rooms from main bottling plant.*

(2) *All machinery and conveyors, tanks, crocks and pipe lines, or containers of any description, to be kept in a clean, sanitary condition.*

(3) *All bottles to be properly sterilized before filling. Crowns or any material that comes in contact with the beverage to be kept in a clean, sanitary condition.*

(4) *All products used in manufacturing, such as extracts or flavors, sugar or syrup, water, etc., to be pure and kept free from contamination. All Federal and State, Sanitary and Pure Food laws to be complied with.*



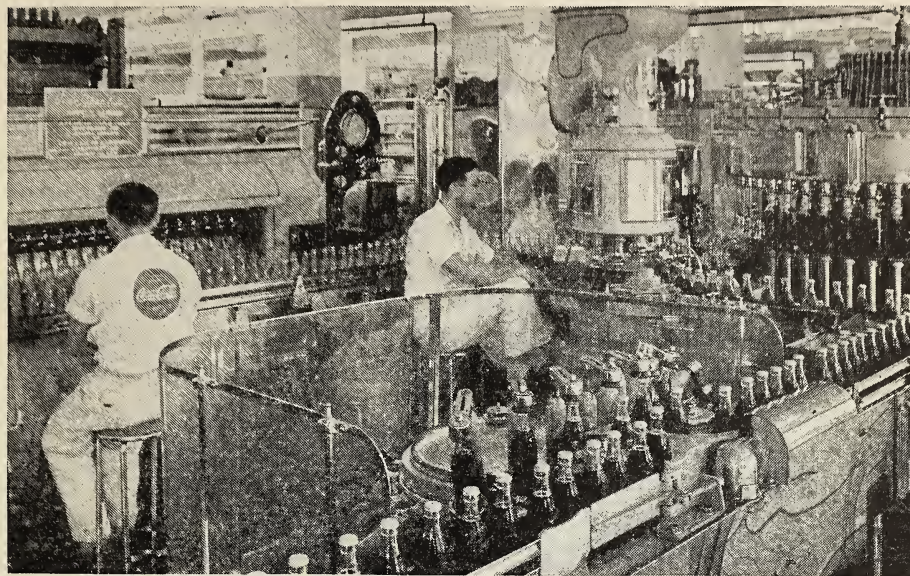
Courtesy Coco Cola Company

Each bottle emerging from this washing unit has been subjected to thirty minutes of soaking, scrubbing, and endless rinsing. First, the bottles are sterilized in a caustic solution. As they proceed through the machine on moving belts, the bottles are given numerous washings and rinsings before they are approved for the filling operation.

(5) All employees in bottling plant to be neat and clean and no one known to have a contagious or infectious disease to be employed.

You should study these rules carefully because they should apply to the manufacture of many other foods which we buy.

Be sure that your soft drink is not contaminated with dirt and germs in the store or at the refreshment stand where you buy it. This is a true story. The annual school picnic was held at an amusement park where children and their parents could buy soft drinks at open-air refreshment stands. The root beer was drawn from a big fancy barrel and sold by the glassful. As each person finished his drink the attendant seized the



Courtesy Coca Cola Company

Trained operators supervise every step in the bottling operation. Human hands, however, do not touch the bottles from the time they are placed in the washing unit until they have been filled, crowned, inspected, and are ready for placement in cases or cartons.

glass, swished it through a pan of cold water, stuck it under the root beer faucet, and handed it to the next person who put down a nickel. The glasses were large, and so allowed all the more chance for germs to pass from mouth to mouth! Everyone should refuse to buy a drink served in such an unsanitary manner. Choose a bottled drink and be sure that the straw which you use has not been unnecessarily exposed to dirt and germs.

WHAT FOOD VALUE IS IN YOUR SOFT DRINK?

The food value of a soft drink depends upon its ingredients. We have found that water, sugar, fruit juices or fruit acids, and carbon dioxide are the chief ingredients of carbonated beverages. Whatever food value to the body is provided by these ingredients adds up to the total food value of

the soft drink. Water is important to the body, and doctors tell us that we should drink several glassfuls every day. A bottle of soda pop contains about 85 per cent water. Many people find a carbonated beverage much more pleasant to take than plain water. When one is hot and thirsty a soft drink seems to quench thirst more effectively than a noncarbonated drink. However, we must remember that a drink of water costs nothing, and soda pop requires a nickel.

Sugar provides quick energy to the body. It is present in soft drinks, but not in such large amounts as in candy bars. It averages about $\frac{3}{4}$ of an ounce to a drink. Fruit juices provide valuable vitamins, and it is a good idea always to choose a drink made with real fruit juices. *Read the label.* Real fruit juices are preferable to the synthetic fruit acids which contain no vitamins. Carbon dioxide provides no direct food value to the body. It merely makes your drink more pleasant. Some doctors say that it stimulates the stomach and is good for an "upset stomach."

There is no question about the popularity of soft drinks in America. About 13,000,000,000 half-pints are sold every year.

WHAT WILL YOU BUY WITH YOUR NICKEL?

How will you decide what to buy with your nickel? An ice cream cone, a candy bar, or a soft drink? Each person must decide for himself whether it is best to buy an ice cream cone, with its high milk content; a candy bar, with its high sugar content; or a soft drink, with its high water content plus carbon dioxide? This question should not be decided entirely in terms of what you like best. If you are short on milk in your diet, an ice cream cone is a good choice. If you are very tired, you might choose a candy bar, providing it will not spoil your appetite for a coming meal, and providing you are not overweight. Perhaps it will be best to save the candy bar for your dessert. If you are hot and thirsty, a soft drink may be a good choice.

None of these refreshments should ever be allowed to interfere with your appetite for a good, nourishing meal. Nutrition experts say that every growing boy and girl should have a quart of milk every day, and that adults need a pint. Never take a soft drink if it spoils your appetite for the milk that you should have.

Everyone must decide for himself when it is wise for him to have an ice cream cone, a candy bar, or soda pop. This does not mean that you should never buy these sweets. It means that you should know which one to choose for your nickel and how many nickels it is best for you to spend.

SUGGESTIONS FOR DISCUSSIONS AND ACTIVITIES

1. What can you do to guard your own safety when you buy ice cream, candy, or soft drinks?
2. Explain the difference between *pure* ice cream and *good quality* ice cream. Describe the characteristics of each. Cannot ice cream be both pure and of good quality?
3. Estimate how many candy bars your class has eaten during the past year? How many pounds of bulk candy and penny candies? Which kind do you consider is safer for you to buy in your stores?
4. How do the ingredients differ in plain ice creams, French ice cream, frozen custard, sherbet, and ice? How do these variations affect food values? (Consult a recipe book.)
5. Discuss different types of candies. Which ones are most popular in your class?
6. Of what value is a sheet of cellophane over a tray of candies placed on an open counter? Do you consider it adequate protection?
7. What flavors of soft drinks are most popular with your class? Do you consider them good selections?
8. Discuss the danger of forming bad eating habits with respect to ice cream cones, candy bars, and soda pop. How will you decide when to spend a nickel for one of these articles? How will you decide which one to buy?
9. Visit an ice cream factory, candy factory, or soft drink bottling works. Observe all provisions for hygienic handling.
10. Do you think you get your nickel's worth when you buy a cone, bar, or drink? Why? How many nickels a month do you think you should spend for these things?

YOUR CONSUMER INVESTIGATIONS

1. Compare prices of factory-packed and hand-packed ice creams in your stores. In order to do this you must know how much each type of quart package weighs and figure the costs per ounce. Generally, there is no difference in the quality of the ice cream mixes. If possible find out from the maker if he uses the same mix for both factory-packed and hand-packed ice cream.

2. Observe the way in which ice cream is handled in your local store. Do you consider the way ice cream is stored and sold to be sanitary? Why or why not?

3. Observe the way candy is displayed and sold in your stores. Is it hygienic?

4. Observe the way soft drinks are sold? If the drinks are poured into glasses, are the glasses clean?

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HOW DO YOU LIKE YOUR MILK?

MILK is the most important food in the world. It can do more to keep our bodies sound and healthy than any other single food which we might choose to eat. Everyone should have an adequate amount of milk every day. This means that a great deal of milk must be produced and that a great deal of money is required to pay for it. The production, processing, distribution, and consumption of milk is a complex problem in our modern world. The quart of milk, fresh, sweet, and clean, which is delivered to your doorstep has had a swift but complicated journey. Milk in other forms, evaporated, condensed, dried, and in cheese and butter, follows a route with many detours before it reaches your kitchen. All these steps in processing and distributing milk in its many forms cost money. All the costs must be paid by consumers. The 15 cents which you pay for a quart of milk and the 50 cents for a pound of butter must cover all the costs of producing, processing, and distributing the product.

It is important for us to know something about the milk problem so that we will know what our money pays for. First, test your knowledge of milk and milk products. Try to answer the questions in the following quiz. (*Do not write in the book.*)

CONSUMER QUIZ

1. If a quart of fresh milk costs 15¢ and a tall can (13 fluid ounces) of evaporated milk costs 9¢, which is cheaper?

2. Do you receive the same food value from raw milk and pasteurized milk?
3. What is irradiated milk?
4. Does pasteurization kill all harmful bacteria?
5. Does homogenized cream whip more easily than regular cream?
6. How much butterfat must coffee cream contain when it enters interstate commerce according to the standards set by the Federal Food, Drug, and Cosmetic Act?
7. Name the two minerals for which milk is most valuable in the diet.
8. If you want the best quality of milk should you ask for Grade A milk or Class I milk?
9. How much American (cheddar) cheese do you have to eat in order to get the same food value contained in a quart of whole milk?
10. What is the chief difference in food value between cottage cheese and cheddar cheese?
11. When farmers and dairymen speak of a "milkshed" what do they mean?
12. Do all communities have the same regulations for the production and handling of milk?
13. What use is made of the largest percentage of the milk produced in the United States?
14. What milk product has a legal definition established by an act of Congress?

FROM COWS TO CONSUMERS

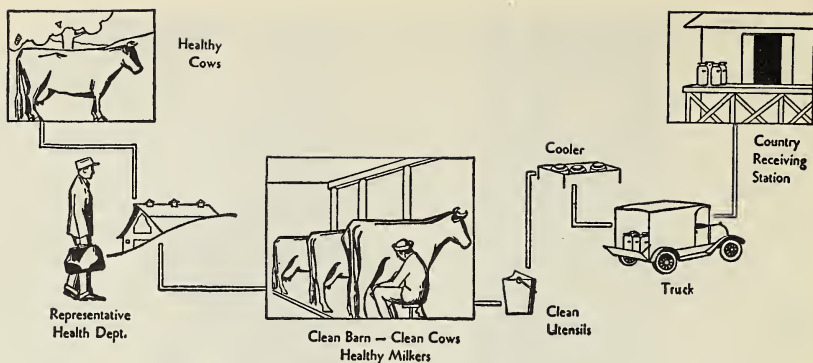
Milk requires careful handling every step of the way from the farm to the kitchen. The term "handling" is commonly used by dairymen, but it does not mean that milk is ever touched by human hands. Handling of milk refers to all the steps in production, processing, and distributing. Sanitary handling is of the greatest importance. Unless milk is clean and free from disease germs we do not want it. Cleanliness



Courtesy American Mutual Liability Insurance Company

"Two quarts today, please!" For many thousands of people, buying milk is as simple as that. But the story behind the daily delivery of pure milk to our homes is a long and interesting one.

begins on the farm. The diagrams on pages 28, 29, and 30 show the necessary precautions in sanitary milk production. First, the cows must be clean and healthy. Cows are subject to tuberculosis and other diseases which may be passed on through the milk to consumers. Tuberculin tests for cows are required in all parts of the United States. Other tests are required in many sections. When cows are found to be in-

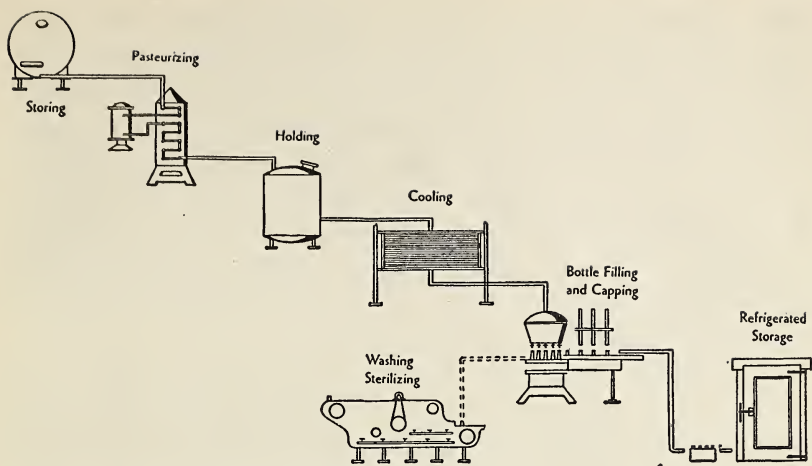


Courtesy National Dairy Council

These pictures show the steps taken to insure sanitary handling of milk from the farm to the country receiving station.

fectured, they are destroyed so that their milk cannot be used. Dairy barns should be clean, neat, dry, and well ventilated. The picture on page 32 shows a modern dairy barn which meets hygienic requirements. Notice the electric milking machine which takes the milk from the cow and leaves it in the covered container. Each time the machine is used it is taken apart and thoroughly cleansed. When milking is done by hand the pails should be cleansed with equal care. Next, the milk is hurried to the cooler. Many modern dairy farms use electric refrigeration to cool the milk. Other farms depend on cold spring water. The milk should be cooled quickly by some means, and then stored in a cool place ready for shipment to the bottling plant in the city.

If the farm is within thirty miles of the bottling plant, the milk will be shipped in large cans by truck. If the farm is farther away, the milk is sent first to a country receiving station. Here it is weighed, sampled, cooled, and stored in large tanks for a short time. These receiving stations are sometimes as far as 400 miles from the city. Tank trucks and tank railroad cars are used to haul the milk from these receiving stations to the bottling plant. These tanks are made like huge thermos bottles and help to keep the milk cool. Notice that care is taken in every step of handling to keep the milk



Courtesy National Dairy Council

After milk leaves the country receiving station it follows the steps pictured above, until it is placed in the refrigerated storage room of the city plant ready for distribution.

cool. The temperature should be below 50° Fahrenheit. Heat is dangerous because it may cause the milk to sour and it encourages the growth of disease germs.

The area around a city which supplies milk to the city is called a "milkshed." In the New York City milkshed there are 450 country receiving stations, which are located in six different states. This is the largest milkshed in the United States.

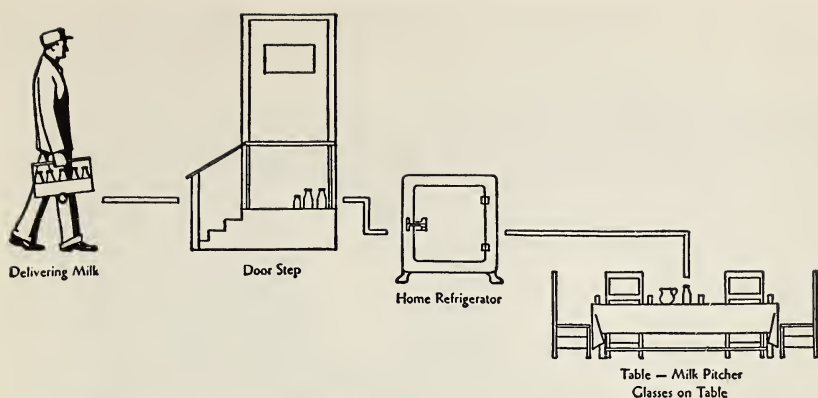
When milk arrives at the bottling plant it is dumped into big pipes which carry it to storage tanks. The milk is held in these tanks until it can be pasteurized. The picture on page 32 shows milk that has arrived in cans from near-by farms being dumped into a pipe which will carry it to a storage tank. Notice the empty cans being carried off along a moving belt. These cans will be washed with live steam before being returned to the trucks. The diagram above shows the steps in milk processing. From the storage tank the milk is piped to the pasteurizer. Pasteurization is a process by which fluids are partly sterilized. It destroys all harmful bacteria in

milk. There are two methods of pasteurization—the holding system and the flash system. In the holding system the milk is heated to 143 ° Fahrenheit and held at that temperature for thirty minutes. In the flash system the milk is heated to 160 ° Fahrenheit, held at that temperature for 15 seconds, and then cooled quickly. The upper picture on page 33 shows milk being cooled after pasteurization as it flows over cold pipes. Next, the milk is piped to the machines which fill the bottles and cap them. The lower picture on page 33 shows the filling and capping process.

After the milk is safely bottled and ready for delivery to our homes, it may seem that all dangers are past. This is not true. Unless properly handled, the milk may spoil between the refrigerating room of the plant and your dining room table. Remember that milk should be kept cool at all times. While it is on the delivery trucks, it must be kept cold. On warm days, the delivery trucks should carry ice. When the milk is delivered on your doorstep it should be cold (below 50°). Then it is your own responsibility to bring it in immediately and put it in the refrigerator. If you suspect that the milk is not so cold as it should be when delivered, test it with a thermometer. Milk bottles should be rinsed off before being placed in the refrigerator, especially if the caps do not cover the rims of the bottles. In some localities, the law requires that the bottle caps cover the rims of the bottles. Then when the milk is poured out, it cannot pick up any germs which were left on the rim by dirty hands. Of course, milk should be handled only by people who are free from infectious diseases; this applies at home as well as on the farm and in the plant.

WHAT DO MILK GRADES INDICATE?

In some cities you can buy Grade A, Grade B, and Grade C milk. Generally, these grades indicate the purity of the milk and not the richness or amount of butterfat contained in it. They indicate that the milk has been inspected and has passed certain standards for wholesomeness and safety.



Courtesy National Dairy Council

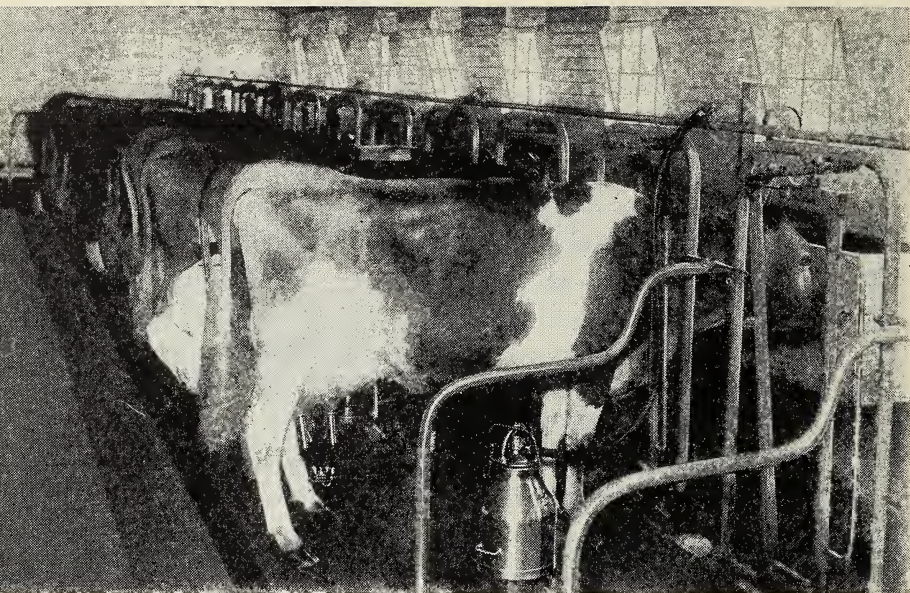
The progress of milk from the refrigeration room until it reaches our tables is shown here.

In a few places milk grades do indicate quality differences, that is, butterfat content. Grade A will contain more butterfat than Grade B. If different grades of milk are sold in your community you will have to find out whether the grades stand for degrees of purity or richness.

The United States Public Health Service in Washington has created a Standard Milk Ordinance which has been adopted by a great many cities. This ordinance provides for three grades of pasteurized milk—Grades A, B, and C. Grade A is pasteurized from milk which is produced under very strict regulations. The farms must meet a very high standard. The milk must not contain more than 200,000 bacteria per cubic centimeter when delivered to the plant and not more than 30,000 when delivered to the consumer. The bottles must have hooded caps, and the milk must be kept below 50 ° at all times.

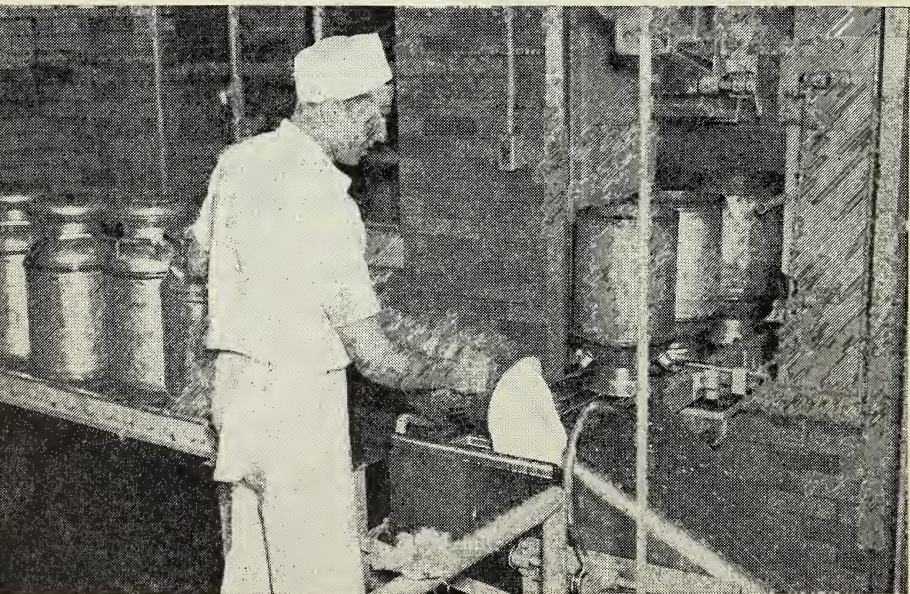
Grade B milk need not have a hooded cap and may contain as many as 50,000 bacteria when delivered to the consumer. Grade C pasteurized milk is below requirements for Grade B.

The ordinance also provides for three grades of raw milk. Grade A raw milk must not contain more than 50,000 bac-



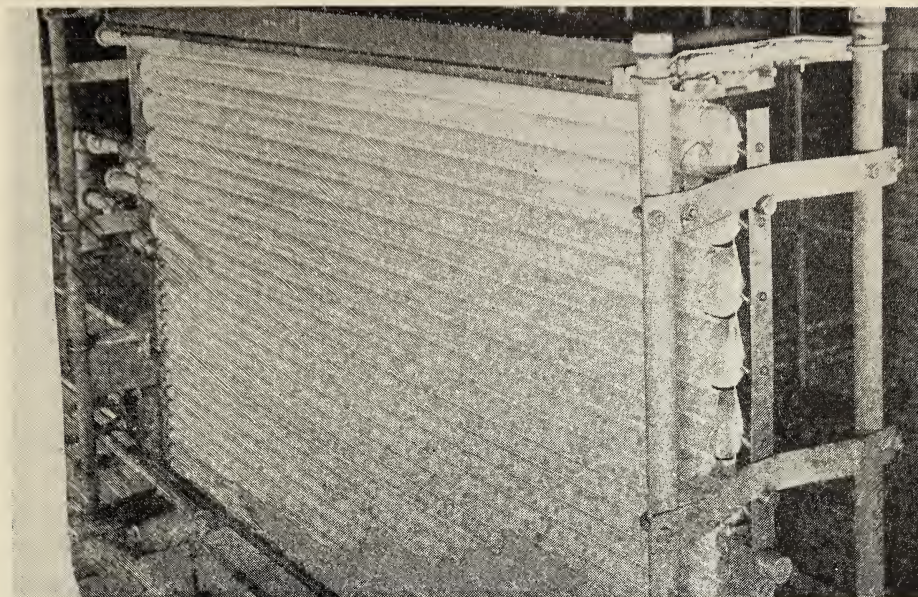
Courtesy National Dairy Council

This modern dairy barn meets hygienic requirements.



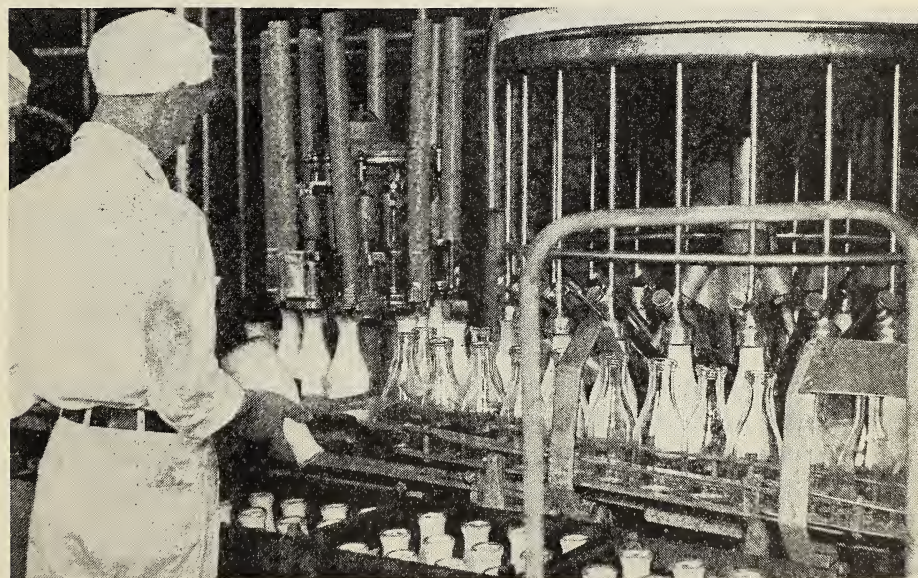
Courtesy National Dairy Council

At the bottling plant milk is dumped into pipes leading to storage tanks.



Courtesy National Dairy Council

Milk is cooled rapidly by passing over cold pipes.



Courtesy National Dairy Council

Bottles are filled and capped by machines.

teria at the time of delivery. It must come from healthy cows that are inspected regularly. Grade B raw milk must meet all the requirements of Grade A milk, except that it may contain a million bacteria per cubic centimeter. Grade C raw milk fails to meet Grade B requirements.

Certified milk is raw milk which meets the requirements of the American Association of Medical Milk Commissions. It is produced under very rigid requirements for sanitary handling. It must not contain more than 30,000 bacteria per cubic centimeter when delivered to the consumer and must be delivered within 30 hours of the time it is taken from the cow. Only licensed dealers may sell certified milk. It is always more expensive than other milk because of the special care that must be taken in producing and distributing.

Most health experts believe that only pasteurized milk is safe milk. However, some people believe that pasteurized milk does not taste so good as raw milk, and some believe that it is not so nutritious. Experiment has proved that neither of these objections to pasteurized milk is based on fact. People who are asked to taste samples of raw milk and pasteurized milk cannot tell which milk is raw and which is pasteurized. Experiments in feeding animals have shown that the animals fed on pasteurized milk grow just as well as those fed on raw milk. But those fed on raw milk are more likely to develop tuberculosis.

If the milk which you buy has not been pasteurized, it should be either boiled or pasteurized before it is served.

MILK COMES IN VARIOUS FORMS

Modern science has made it possible to change the form of milk and to improve its quality in many different ways. Consumers should understand how milk is changed in each form, so that they can select the kind which is most desirable for their own needs.

Evaporated milk is familiar to most of us. It is made by heating milk in a vacuum until one half the water is evap-

orated. Then the milk is sterilized and sealed in tin cans. Sterilization kills all bacteria so the milk will not spoil in the can. After the can is opened, the milk should be kept cool, like any other milk, because bacteria from the air will cause it to spoil. Heating the milk changes the taste slightly, but the heating process makes the milk easier to digest. Evaporated milk is a concentrated form and should be diluted with an equal amount of water when milk of normal strength is desired. A pint of evaporated milk (before water is added) gives approximately the same food value as a quart of fresh milk.

Condensed milk is another form of concentrated milk. A large amount of water is removed by evaporation and about 15 per cent sugar is added. This type of milk is used mostly for the manufacture of candy and ice cream.

Dried milk is the most highly concentrated form of milk. It is made by evaporating most of the moisture from the milk. The standard established under the Federal Food, Drug, and Cosmetic Act prohibits leaving more than 5 per cent moisture in the dried milk. This is the standard for both dried whole milk and dried skim milk. Dried milk looks like a coarse flour and is dissolved in water when used. Dried milk (sometimes called powdered milk) must be kept dry or it may cake. It has been used extensively in the Second World War for American armies overseas. It is lighter in weight and smaller in bulk than any other form of milk.

Homogenized milk and cream are made from fresh milk and cream which are processed so that the fat does not separate and rise to the top of the bottle. The fat globules are mechanically broken down and scattered through the milk. This produces a milk or cream which seems richer. It also produces a softer curd, which is more easily digested. Homogenized milk makes smoother soups and custards, but it is almost impossible to whip homogenized cream. Evaporated milk is homogenized by processing with heat. Homogenized milk is generally more expensive than ordinary bottled milk, but the price need not be excessive.

Vitamin-D or irradiated milk is milk to which vitamin D has been added. This may be done in one of three ways. Vitamin-D-rich food may be fed to the cows; vitamin-D concentrates may be added to the milk; or the milk may be exposed to ultraviolet rays from special lamps. Ordinary milk does not contain enough vitamin D for body needs, but science has found a way to add it to our milk. It is especially important that babies and people who do not get enough sunlight should have plenty of vitamin D.

GOVERNMENT PROTECTION OF OUR MILK SUPPLY

The federal government protects our milk supply only when the milk enters interstate commerce. The Federal Food, Drug, and Cosmetic Act can be applied when milk crosses a state boundary. Here are some quotations from "Notices of Judgment" issued by the Food and Drug Administration which show how we are protected from dirty milk.

2680. Adulteration of Cream. U.S. v. 3 5-gallon Cans of Cream, 2 8-gallon Cans, and 1 10-gallon Can (and 4 other seizure actions against cream). Consent decrees of destruction.

This product was in whole or in part filthy, decomposed, and putrid.

2682. Adulteration of Skim Milk Powder. U.S. v. 100 cartons of Skim Milk Powder. Consent decree of condemnation. Product ordered released under bond for disposal as livestock feed.

Examination showed this product to contain insect fragments and nondescript dirt.¹

We are glad that the Federal Food, Drug, and Cosmetic Act protects us from dirty milk. Remember that this law cannot protect us against milk which is processed and sold within the same state. Most states have pure food and drug

¹ "Notices of Judgment under the Federal Food, Drug, and Cosmetic Act." Food and Drug Administration. Federal Security Agency. August 24, 1942. Pp. 346-347.

laws based on the federal law. Every person should know about the food and drug laws in his own state, as well as about the federal laws.

The Federal Food, Drug, and Cosmetic Act helps us in another way to get better milk. Under the authority of this act, definitions and standards of identity for food products can be established. This means that a standard for the quality and character of the food is established. For example, the standard for coffee cream says that it must not contain less than 18 per cent butterfat. In most states the standard for fluid milk requires that it contain at least $3\frac{1}{4}$ per cent butterfat. Only butterfat is permitted. Skim milk with vegetable fat added is not milk according to the definition of milk. The purpose of adding vegetable fat to skim milk is to produce a cheap product which will sell for the price of real milk. This product is called "filled milk" and is unlawful in many states, as well as in interstate commerce.

The standard of identity for dry skim milk defines it as a product obtained by drying sweet skim milk and requires that it contain no more than 5 per cent water. The standard for dry whole milk requires not less than 26 per cent butterfat and not more than 5 per cent water.

State laws may be concerned with purity, quality, and methods of handling milk. City laws are generally concerned only with purity and quality. Milk laws vary greatly in different localities. Sometimes the law prevents the use of milk from an area which is near by but is across a county or state line. The "milkshed" around a city should include all near-by farms that produce milk under sanitary conditions. Good laws do not restrict the sale of good milk from any farms within a reasonable distance of the city.

The United States Public Health Service encourages the adoption of the Standard Milk Ordinance by all communities. This means that all milk would be produced under uniform sanitary conditions. At present more than 2,300 communities in the United States use the Standard Milk Ordinance.

Why is milk considered the "most nearly perfect food"? What does it give to our bodies?

1. Milk is a good source of energy. All living things need a fresh supply of energy every day, and milk is an excellent source of energy for human beings, as well as for animals. Remember that milk is not a liquid like water. It contains 13 per cent solids by weight. This is a larger amount of solids than is contained in many foods, such as carrots, cabbage, and tomatoes. A quart of milk a day will give you 665 to 675 calories which is a large portion of your daily energy requirement.

2. Milk is a good bone and tooth builder. Calcium (lime) and phosphorus are the minerals which are essential for good bones and teeth. Both these minerals are contained in milk. There is more calcium in milk than in any other food. You would have to eat 42 slices of bread in order to get as much calcium as you get from one cup of milk. Milk is also rich in phosphorus, which is necessary for good bones and teeth. However, phosphorus is abundant in many common foods. Remember that only by using plenty of milk can you get enough calcium to grow fine, strong bones and teeth.

3. Milk is a good muscle builder. It is rich in protein, which is necessary to build good muscles. Milk contains several different proteins. The most important is casein, which we know in the form of cottage cheese. The proteins in milk are easily used by the body.

4. Milk is a good source of vitamins, which are essential to health. Milk is an especially good source of vitamins A and G. Vitamin A is exceedingly important in the diet because it promotes growth, helps us to resist disease, and keeps the skin and other body tissues in good condition. Its lack causes slow growth, greater susceptibility to colds and other infections, and poor vision in dim light. This vitamin is found in the cream or butterfat content of your milk.

If you should drink only skim milk from which all the cream has been removed you would not get any vitamin A. That is why "filled milk," with its added vegetable fat, is not a satisfactory substitute for whole milk.

Vitamin G is also known as vitamin B₂ and as riboflavin. This vitamin is necessary for normal growth in children and for good health in both children and adults. The best source of vitamin G is cow's milk.

There are other vitamins which are essential to health which are not so abundant in milk. Vitamin D can be added to milk, but it is not present normally. Iron and other minerals are not present in large enough quantities for an adequate diet. For these reasons milk is not an entirely perfect food. It does not quite fulfill all requirements for an adequate diet. Yet it is the most nearly perfect food, and its food value to us is of tremendous importance.

THE PRICE YOU PAY FOR MILK

A well-informed consumer knows what he is paying for. The study that we have made of milk production, processing, and distribution shows you what you are really paying for when you buy a quart of milk. You pay for healthy cows, clean dairy farms, transportation from farm to plant and from plant to home, processing and bottling in the plant, testing, and most of all for sanitary handling from the farm to you. When you buy a quart of milk you are concerned chiefly with two things. Is the milk clean and free from disease germs? Is the milk good quality? Milk that is rich in butterfat but loaded with dangerous germs—scarlet fever, tuberculosis, septic sore throat, and typhoid fever—is not good value for your money at any price. On the other hand, perfectly pure milk with little or no butterfat is not a good value, unless you are paying only for skim milk.

Producers, distributors, and consumers are concerned with the price of milk. The producer and distributor must be paid for their work, and the consumer must pay all costs. Dairy

farmers must make a living or they will not continue to produce milk. They have many expenses, including what they pay for cows; the original cost and upkeep of barns, cooling systems, and other equipment; feed for cows; and wages to their helpers. Over and above these costs, they must make a profit in order to live. Distributors also have many costs, such as processing equipment, transportation, bottles, and labor. They, too, must make a living. Consumers must pay for all this, but they cannot afford to pay too much.

The price of milk is a very complicated economic problem in our modern world. No one has yet found a satisfactory solution. Since consumers have something at stake, they should try to understand the problem and work for a fair and satisfactory arrangement.

HOW DAIRY FARMERS ARE PAID

The price that farmers get for their milk varies greatly. The price depends on the use of the milk. The highest price is paid for "fluid milk"—milk that is bottled and sold as fresh milk. Naturally, all farmers would like to sell all their milk as fluid milk. This type of milk is known as Class I milk. However, consumers do not always plan to use as much milk as cows choose to produce. The milk which is left over is called "surplus milk" and is used for making evaporated milk, cheese, butter, and other milk products. Milk used for cream is called Class II milk. The milk used for butter is known as Class III. There are from six to eight different classifications depending upon the locality. The classes vary in different states. This method of classifying milk according to use is known as the "classification" or "utilization-price plan."

The distributor does not know at the time that the farmer delivers the milk to him just how much of it will be used for fluid milk and how much will be left over for butter, cheese, and other uses. At the end of the month the distributor can figure the amount of milk which he has used for each purpose. If he has used 50 per cent of the milk for fresh milk, 30 per cent of it for butter, and 20 per cent of it for

cheese, each farmer will be paid accordingly. If a farmer has delivered 1,000 pounds of milk, he will receive the fluid-milk price for 500 pounds, the butter price for 300 pounds, and the cheese price for 200 pounds. This method of paying farmers is called the "blended-price" plan.

In some areas the farmers receive a "flat price" which means that they receive the same price for each pound of milk which they sell. However, the uses to which the milk will be put are considered before the flat price is set.

Prices paid to the farmer necessarily vary from time to time. When his costs increase, he must have more money for his milk in order to make a profit. Most dairymen raise the feed for their cows. During a year when there is a drouth, a farmer may not be able to raise enough feed. He must buy it, and this will increase his costs. Unless he can get more money for his milk, he may be forced out of business. During the Second World War, farmers have had great difficulty in getting help to run their dairies. Some farmhands were called to service in the armed forces, others left the farms to work in defense plants where they could earn more money. Dairy farmers had to pay higher wages and in many cases were able to get no help at all. Many of them sold their herds. The result was lowered production of milk. Prices paid to farmers had to be increased. This meant that prices to consumers were also increased. Remember that when costs of production are increased, consumers' prices are increased.

MILK DISTRIBUTORS SHARE OUR MILK MONEY

We have seen that part of the money we pay for milk goes to the dairy farmers. Part of it must also go to the milk distributors. They perform a valuable service for us for which they must be paid. Their expenses include hauling, processing, bottling, and delivering. Over and above these costs, they must make a profit in order to stay in business. Approximately half the money which we pay for milk goes to the distributor. In some localities it may be more, and in others it may be less. If you pay 14 cents for a quart of

milk, perhaps 6 cents goes to the farmer and 8 cents to the distributor. The difference in price paid to the farmer and that paid by the consumer is called the "spread." Many people feel that the spread is too great. They think that the cost of processing and delivering is too great and that more economical ways can be found of getting the milk from the farmer to the consumer.

Both distributors and consumers are guilty of expensive practices which increase the price of milk. Everyone concerned with the handling of milk should try to eliminate wasteful practices. Some suggestions follow.

For distributors:

1. Eliminate wasteful delivery practices. Nine milk trucks from nine different companies should not travel the same route every day.

2. Eliminate extra trips for collections.

3. Encourage cash-and-carry prices from stores and milk stations.

4. Encourage the use of milk products, such as skim milk and concentrated milks.

5. Give discounts for quantity purchases.

6. Use cheaper containers, paper or fiber, when possible.

7. Require bottle deposits to reduce losses through breakage and unreturned glass bottles.

For consumers:

1. Never ask for more than one delivery a day, or better yet only every other day.

2. Return all empty bottles promptly.

3. Take advantage of cash-and-carry prices and of quantity discounts.

4. Make a study of costs of milk in different forms and buy accordingly.

5. Form buying clubs to secure quantity discounts.

6. Attend milk hearings and make consumers' needs known.

HOW MILK PRICES ARE ESTABLISHED

The price you pay for your quart of milk may be a "free price" or it may be an "administered price." Free prices are determined by free bargaining among buyers and sellers. Free prices are generally higher when the supply of milk is scarce and everybody wants to buy it. Prices are lower when there is plenty of milk and not so many people who are ready to buy. Prices are influenced by the supply and demand for the commodity.

In many states the price for milk is an administered price. This means that the price is fixed by a government agency or by agreement among the buyers and sellers. Some states have Milk Control boards which set the prices paid to farmers and those paid by consumers for milk. Farmers, dealers, and consumers are concerned with the price of milk. When one of these groups feel that milk prices are unfair, petition can be made to the board for a change in prices. Public hearings are held at which farmers, distributors, and consumers may present their case. Consumers should always be represented at these hearings, but very often no consumer is present.

Some people believe that all milk prices should be free prices and not administered by a government agency or fixed by agreement among buyers and sellers. Everyone should know how the milk prices in his state are established. When you buy a quart of milk you should know what you are getting for your money, and how the price is fixed.

Milk is an essential food of the greatest value to our health and welfare. The price we are asked to pay for it should not be excessive. It is not a luxury we can do without if our pocketbooks are limited, and there is no cheaper substitute.

BUTTER IS AN IMPORTANT MILK PRODUCT

More milk is used for the production of butter than for any other purpose. It requires $10\frac{1}{2}$ to 11 quarts of milk to make one pound of butter. Since about $1\frac{1}{2}$ billion pounds of

butter are made annually in the United States, you can see that an enormous amount of milk is used for this purpose in our country.

Butter is a staple food for American people. It is valued for its flavor both on the table and in cooking. We like butter on our bread and rolls, and we like it on our vegetables and in our cakes.

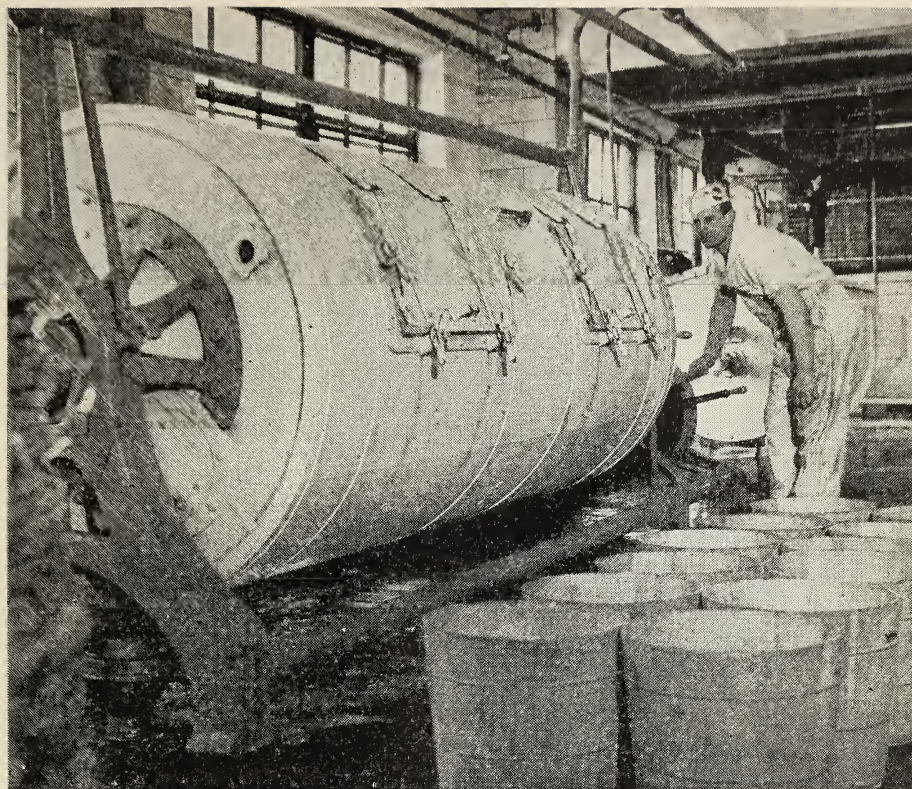
Butter is valuable in the diet because it is the only food fat with a large content of vitamin A. We know that vitamin A is important for health and growth. Nutrition experts tell us that one quart of milk and one ounce of butter per day will give us a large portion of our daily vitamin-A requirement. Butter is also an important energy food. Its content is chiefly fat, and fat is used for fuel in the body. One tablespoon of butter gives as much fuel as a thick slice of bread.

KINDS OF BUTTER

Butter is made from either sweet cream or sour cream. Both kinds are popular in the United States, although more butter is made from sour cream. Each kind has a characteristic flavor. *Sweet butter* is not necessarily made from sweet cream. It is unsalted. Many people do not understand the difference between sweet-cream butter and sweet butter. Remember that sweet butter may be made from sour cream, but that it is always unsalted. The kind of butter you choose is a matter of personal taste. Read the label on the wrapper of your pound of butter. It may tell you whether the butter is made from sweet or sour cream, and whether it is sweet or salted butter. Remember that all types of butter have the same food value.

HOW BUTTER IS MADE

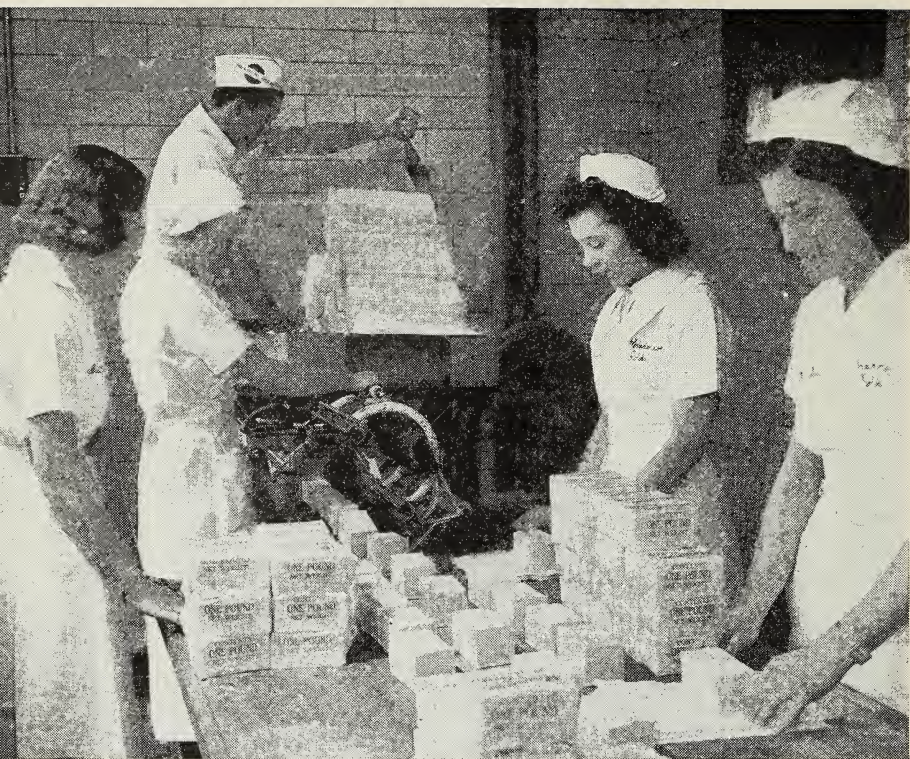
All milk and cream used for making butter should be pasteurized. Butter made from raw milk and cream is as unsafe as a bottle of raw milk. Disease germs are not particular about their method of travel. After cream for buttermaking



Courtesy National Dairy Council

Mechanical churns of giant size whip the cream to make butter in this modern dairy plant.

is pasteurized, it is poured into the churn. The picture on this page shows a churn in a dairy plant. When the churn begins to revolve, the cream is agitated until the butter is formed. Next, the liquid which is left in the churn is drained off. This liquid is called buttermilk. After the buttermilk is removed, cold water is put into the churn, and the churn again set in motion. This washes the butter so that no buttermilk is left in it. After the butter is well washed and the water drained off, salt is added, and the churn is again set in motion. When the butter is evenly salted, it is removed from the churn. Next, it is packed in wooden tubs like those seen in the picture above and taken to a cold room for hardening.



Courtesy National Dairy Council

Pound-size bricks of butter are cut by machine, moved along on a belt, and wrapped hygienically.

Butter cannot be cut into bricks until it has hardened. The butter in the picture above is being put through a machine which cuts it into one-pound bricks. As the bricks leave the machine on a moving belt, each one is wrapped by hand. In some dairies the butter is wrapped by a machine.

GOVERNMENT STANDARD FOR BUTTER

Butter is the only food for which there is a legal standard. This means that the Congress of the United States passed a law which says that butter must contain 80 per cent milk

fat. This law is enforced by the Food and Drug Administration. Many cases are described in "Notices of Judgment" in which a product containing less than 80 per cent milk fat was illegally sold as butter. Often these shipments of illegal butter are ordered to be reworked so that the milk fat content will be brought up to 80 per cent.

GOVERNMENT GRADES FOR BUTTER

In many large markets, butter is graded for quality by expert government graders. Butter may satisfy the legal requirement for 80 per cent butterfat and yet be poor butter. Government quality grades are based on flavor, body, color, and salt.

93 score is fine, sweet, and clean in flavor, with firm body, and with color and salt light or medium.

92 score is not quite so fine in flavor and may have very slight irregularities in color. This is generally the highest score found in retail markets. It is good table butter.

91 score is only fairly sweet and clean in flavor. The color is irregular, and the salt may be high. To some people this butter has an objectionable flavor.

90 score may be flat and undesirable in flavor. Texture and color may be uneven. The body is only fairly firm.

89 score may have objectionable flavors. The body is not so firm as in higher qualities, and the color is wavy. Salt may be "gritty."

88 score has very objectionable flavors and is not desirable for table use.

The wrapper on each pound of graded butter bears a Certificate of Quality which indicates the score. Very little

CERTIFICATE OF QUALITY

Issued by Authority of the

United States Department of Agriculture

This is to certify that the churning of butter from which the butter in this package was taken was graded by an official United States Butter Grader and that the date of said grading and the number of the grading certificate issued are perforated hereon and that the quality of it when graded was

U. S. 92 SCORE or Higher

ARMOUR CREAMERIES

Distributors - Gen'l Office Chicago, Ill.

NOTE: To read the perforations: Read perforations from the back of wrapper. First four numerals indicate number of grading certificate, the next two numerals indicate the calendar month, and the last two numerals, the day of month the butter was graded.

Courtesy Armour Creameries

This is the type of label used on government graded butter.

93-score butter reaches the retail market. Butter which scores 93 at the packing plant may score only 92 by the time it reaches the consumer because of loss of flavor. Therefore, the Certificate of Quality reads "92 score or better."

Unless you know the meaning of butter scores you may think that any of them are high scores because all of them stand high in a possible scale from 0 to 100. You will notice that there is a difference of only four points between 88 score and 92 score butter. However, there is a tremendous difference in quality.

During the Second World War the Food Distribution Administration issued an order establishing a new and simplified system for grading butter. This system reduces the grades to five and uses letters to indicate the different grades. The order states that "The nomenclature of U.S. Grades of Creamery Butter shall be as follows: U.S. Grade AA or U.S. 93 Score; U.S. Grade A or U.S. 92 Score; U.S. Grade B or U.S. 90 Score; U.S. Grade C or U.S. 89 Score; U.S. Cooking Grade, and No Grade." The bases for determining these U.S. government grades for butter are flavor, body, color, and salt.

Butter grades are used chiefly for buying and selling among

producers and distributors. They do not often reach the consumers. There is no reason why butter should not be sold according to government grades in the retail market. When consumers demand to know the quality of their butter before they buy it, retailers will be quick to supply the information.

MARGARINE IS A SUBSTITUTE FOR BUTTER

Margarine (oleomargarine) has been used as a substitute for butter in the United States since 1875. It is a good, wholesome spread for bread which costs considerably less than butter.

Some margarines are made wholly from vegetable fats. Other margarines are made from animal fats to which some vegetable fats have been added. When you buy margarine read the label to see from what it is made. The fats are added to whole or skimmed milk and churned in somewhat the same way as butter.

Butter is the only food fat that contains vitamin A. Margarine does not contain this vitamin, and to make up for this deficiency, most margarine manufacturers add vitamin A to their margarines. Always read the label on your margarine to find out whether vitamin A has been added. Note the vitamin-A content specified in the margarine label on page 50.

A great many laws, both state and federal, have been passed to regulate the manufacture and sale of margarine. Since margarine can be produced and sold to the consumer at a much lower cost than butter, the butter manufacturers fear that margarine will cut into their butter sales. In order to protect their own interests, butter makers have promoted many laws which increase the cost of margarine to the consumer. One law requires the margarine manufacturer to pay 600 dollars for a federal license. Besides this, the margarine manufacturer must pay $\frac{1}{4}$ cent for every pound of uncolored margarine that he makes, and 10 cents for every pound

Savory Brand

A HEALTHFUL TABLE SPREAD

ECONOMICAL FOR ALL COOKING PURPOSES

MADE FROM PRODUCTS
OF AMERICAN FARMS



WILSON'S **Savory**
NET WEIGHT ONE POUND



OLEOMARGARINE

MADE FROM ANIMAL AND VEGETABLE FATS
5000 U. S. P. UNITS VITAMIN 'A' ADDED
TWO OUNCES OF THIS PRODUCT WILL FURNISH 28% OF THE
MINIMUM DAILY REQUIREMENTS OF VITAMIN 'A' FOR THE ADULT.

GENERAL OFFICES **WILSON & CO.** CHICAGO, U. S. A.

Manufacturers

Courtesy Wilson and Company

The labeling on this margarine wrapper gives the consumer valuable information.

of colored margarine. Naturally these costs are passed on to the consumer. Retailers must pay 6 dollars for a federal license to sell uncolored margarine, and 48 dollars to sell both colored and uncolored margarine. These costs are also passed on to the consumer.

Nearly every state has special laws requiring license fees and taxes for the manufacture and sale of margarine. Some of these state licenses are very expensive. For example, margarine manufacturers in some states must pay \$1,000 for

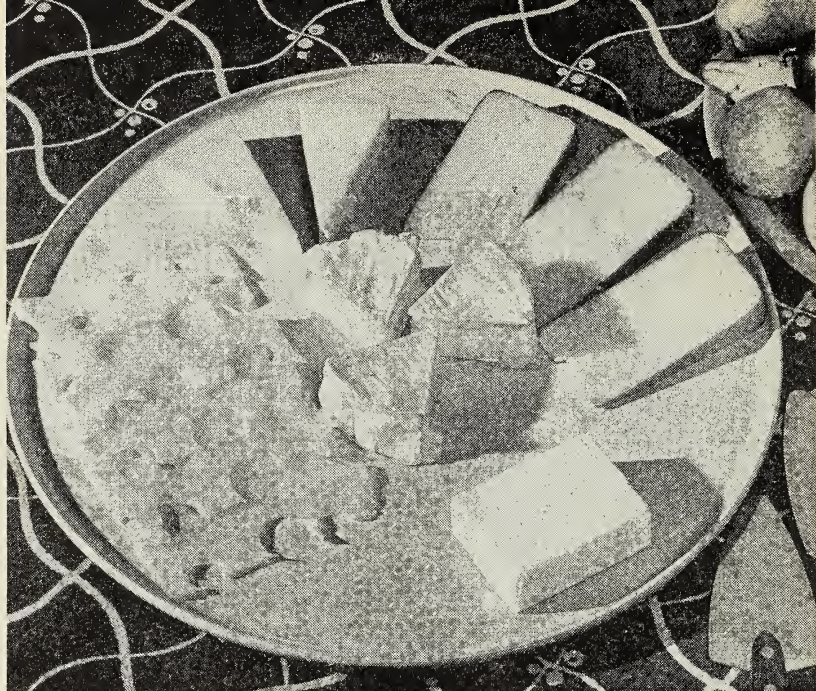
their licenses, and retailers must pay as much as \$400 for the privilege of selling margarine. The small grocery store cannot sell enough margarine to pay for such a license and, therefore, does not sell margarine at all. You will find it interesting to investigate the margarine laws in your own state. Have someone in your class write to your state Department of Agriculture and ask for a copy of the laws regulating the manufacture and sale of margarine.

The quality and purity of margarine which enters interstate commerce is guarded by two government agencies. Margarines which contain animal fats must be manufactured in plants supervised and inspected by the Federal Meat Inspection Service, which is an agency in the U.S. Department of Agriculture. Margarines which contain only vegetable fats come under the supervision of the Federal Food, Drug, and Cosmetic Act. All margarines must contain 80 per cent fat which corresponds to the 80 per cent fat requirement for butter.

CHEESE IS AN IMPORTANT MILK PRODUCT

Cheese is a highly concentrated food. About five quarts of milk are required to make one pound of American cheddar cheese. This means that all the solids in five quarts of whole milk are concentrated in one pound of cheese. All the proteins, fats, minerals, and vitamins found in whole milk are found in cheese. It is a very good source of fuel and energy.

There are more than 400 varieties of cheese made in America. Cottage cheese and cheddar (American) cheese are made in the largest quantities. Cottage cheese is a soft cheese made from skim milk. It is important to remember that cottage cheese is made from skim milk because this means that it contains no milk fat and, therefore, no vitamin A. It is a good food because it does contain protein, minerals, and vitamins found in skim milk, but it cannot take the place of whole milk in the diet.



Courtesy Kraft Cheese Company

A variety of flavors and textures may be had in cheese. On this tray are Camembert, in the center, and around it—beginning at the left and reading clockwise—are Swiss cheese, two wedges of Roka, three slices of Chantelle, and a piece of Philadelphia cream cheese.

Cheddar cheese was named for the type of cheese developed in a small town in England. Generally, it is called American cheese in this country. Most of it is made from whole milk, but a small amount is made from skim milk. In Canada the law requires cheddar cheese made from skim milk to be labeled "Made from Skim Milk." Most consumers believe there should be such a law in the United States.

Cheese is made by coagulating the milk either by the addition of rennet or by the use of the lactic acid in the milk itself. The liquid or whey is then removed by draining, heating, and pressing. The remaining solid or semisolid curd is ready to ripen. It is stored for weeks or months at the best temperature for the special variety. This ripening in storage improves the flavor and body of the cheese. Cheddar cheese which is not thoroughly ripened is tough and rubbery.

Different varieties of cheese are made by adding certain bacteria and molds before the ripening process. The holes in Swiss cheese are made by gas which forms during the ripening process. Some cheeses like Roquefort and Camembert are mold-ripened, and you can see the effects of the mold in the ripened cheese.

NATURAL AND PROCESSED CHEESE

Natural cheese is ripened slowly by storing the cheese in a room of the right temperature. Well-ripened cheese requires several months' time in the storage room. Cheese which is not well-ripened is called "green" cheese though it is not green in color. Particular consumers do not like "green" cheese because it does not have as pleasing a texture or flavor as the well-ripened cheese.

Processed cheese is made by mixing and grinding up one or more kinds of cheese, adding an emulsifying agent and sometimes water, and then heating. The result depends upon the kinds and quality of the cheese used. Very often "green" cheese is used to make processed cheese, in which case the flavor of the processed cheese will be like "green" cheese. Processed cheese is formed into bricks, but natural cheese is generally formed into round, flat shapes called cheddars, daisies, or longhorns. Experts prefer natural cheese because of its superior flavor, but many people prefer the processed cheese for various reasons. It keeps well, it has a smooth, even texture, and a slice is the right size and shape for a sandwich. When you buy cheese compare prices of the natural and processed cheese and decide which one will give you better value for your money.

QUALITY IN CHEESE

The federal government has established quality grades for cheddar cheese, and some manufacturers are grading and labeling their products. Read the labels on your cheese to see

whether it is graded. Government grades for cheese are similar, but not the same, as those for butter.

U.S. Extra Fancy	95 and above
U.S. Fancy	92-94
U.S. No. 1.....	89-91
U.S. No. 2.....	86-88
U.S. No. 3.....	83-85
Culls	Below 83

During the Second World War tentative grades for cheddar cheese were proposed by the Food Distribution Administration. These grades were similar to the butter grades introduced during the war. They are as follows:

U.S. Grade AA or U.S. Fancy
U.S. Grade A or U.S. No. 1
U.S. Grade B or U.S. No. 2
U.S. Grade C or U.S. Under Grade
No Grade

MILK EQUIVALENTS IN THE DIET

Nutrition experts tell us that growing children need at least one quart of milk a day and that adults need one pint each day. It is not essential that we should always drink fresh milk in order to get the necessary amount. Milk is an important ingredient in many foods, such as custards, cream soups, and cream vegetables. Ice cream, cheese, and butter are important milk products. When fresh milk is not obtainable or is too expensive, you can depend on evaporated milk, dried whole milk, and dried skim milk.

Making substitutions for fresh whole milk requires a little mathematics. Here are some figures to help you in figuring food values.

- 1 pint of undiluted evaporated milk equals 1 quart fluid milk
- $\frac{1}{4}$ pound of dried whole milk equals 1 quart fluid milk

$\frac{1}{3}$ pound cheddar cheese equals 1 quart fluid milk

1 quart skim milk plus $1\frac{1}{2}$ ounces butter equal 1 quart fluid milk

Remember that cocoa and chocolate drinks are often made with skim milk. If you drink cocoa instead of plain milk you should know whether it is made with skim or whole milk.

IMPORTANT TO YOU

Your study of this chapter should have shown you two things: 1) How essential it is that you have one quart of milk every day, and 2) How to get good value for your money when you buy milk.

SUGGESTIONS FOR DISCUSSIONS AND ACTIVITIES

1. Explain the difference between pasteurizing and boiling milk.
2. Appoint someone to report on the story of Louis Pasteur. This report should include a statement of how Pasteur's discovery is important to you.
3. Invite someone from the city or county health department to tell you about qualities of milk and regulations for handling milk in your community.
4. How are prices for milk determined in your state? Discuss advantages and disadvantages of free prices and administered prices.
5. Discuss milk regulations ordered by the federal government during the Second World War.
6. In some cities milk bought in a store is one or two cents cheaper per quart than milk delivered at the door. In other cities there is no difference in price. Milk-driver unions sometimes object to a price differential because some of them may lose their jobs if too many people buy their milk at stores. Discuss this question.
7. What suggestions can you make for more economical delivery of milk in your neighborhood?
8. How many kinds of cheese are you acquainted with? List the types of cheese popular in your class.
9. Bring labels from concentrated milk, butter, and cheese. Study these labels for information which consumers should have.

Do you think distributors of dairy products could improve their labels? If so, how?

YOUR CONSUMER INVESTIGATIONS

1. Find out how many types of milk are sold in your stores. Compute the cost per quart of each kind.

2. Find out whether graded milk is sold in your community. What are the standards for each grade? If only one grade is sold, what butterfat content is required and what bacteria count is allowed?

3. Secure a copy of the state milk law which sets the standards for fluid milk and for milk production and handling. Find out whether the city you live in has the same regulations.

4. Find out how much the farmers are paid per quart of fluid milk. Subtract the retail price per quart to see what the spread is. Farmers are generally paid by the hundredweight for their milk. One quart weighs 2.15 pounds. This will help you in computing the price the farmer receives for each quart.

5. Find out what brands of butter sold in your stores are government graded.

6. Find out what brands of cheese sold in your stores are government graded.

7. How many members of your class get an adequate amount of milk every day? Compute the number of quarts consumed every week by your class. Find out whether more milk would be used if the price of milk were lower.

~3~

FRUITS AND VEGETABLES—FRESH OR PROCESSED

GOOD American meals always include fruits or vegetables. Orange juice, grapefruit, or other fruit is generally part of our breakfast. Vegetable soup or fruit salad is frequently eaten for lunch. Potatoes in some form, other vegetable dishes, and salad are almost always included in our dinners. Millions of tons of fruits and vegetables are sold to Americans every year for use on their tables.

Certainly we should know how to get good value for our money when we buy fruits and vegetables. There is much to learn about food values, qualities, safety, production, processing, and distribution of fruits and vegetables. The more that we can learn about what happens to a peck of potatoes or a basket of peaches from the time it leaves the farm until it reaches our table, the more likely we are to make intelligent selections. It is important for us to know what we are paying for, why prices change, and how these things affect our pocketbooks.

Before starting your study of this chapter, try the consumer quiz on fruits and vegetables. (*Do not write in the book.*)

CONSUMER QUIZ

1. Which fruit does not belong in the group?
Lemon Apple Orange Grapefruit
2. Tomatoes and oranges are both rich in vitamin C. True or false?

3. Green, leafy vegetables are a good source of what mineral?
4. Which three of these vegetables are high in fuel value?

Asparagus	Lima beans	Snap beans
Sweet corn	Eggplant	Green peppers
Green peas	Radishes	Summer squash

5. An orange with a thick skin always contains more juice than an orange with a thin skin. True or false?
 6. Never buy bananas that are picked green. Right or wrong?
 7. The four quality grades established by the U.S. Department of Agriculture for canned fruits and vegetables are _____, _____, _____, and _____.
 8. Classify the fruits and vegetables listed below according to their chief value as a source of iron or Vitamin C.
- | | | |
|----------|--------------|------------|
| Tomatoes | Strawberries | Tangerines |
| Spinach | Grapefruit | Lima beans |
9. The Federal Food, Drug, and Cosmetic Act protects consumers from injurious substances in both fresh and processed fruits and vegetables. True or false?
 10. Five vitamins are listed in the first column, and conditions caused by vitamin deficiencies in the diet are listed in the second column. Match the vitamin with the condition caused by its deficiency. Your study of the last chapter should help you with part of this test.

<i>Vitamins</i>	<i>Condition Caused by a Vitamin Deficiency</i>
Vitamin A	Scurvy
Thiamine (B ₁)	Night blindness
Riboflavin (B ₂ or G)	Skin trouble and pellagra
Niacin	Fatigue and poor appetite
Vitamin C	Retarded growth

FOOD VALUES IN FRUITS AND VEGETABLES

What do we get for our money in terms of health and vigor when we buy fruits and vegetables? People have known

for a long time that fruits and vegetables are good for us, but only in recent years have they learned why. Modern scientists have discovered that fruits and vegetables are valuable to the diet in several ways.

First, fruits and vegetables provide considerable bulk or "roughage" in the diet. Leafy vegetables, fiber, skins, and outer coverings contain cellulose which is not digested in any great amount by human beings. This cellulose provides bulk in the digestive organs and stimulates the digestive processes, especially elimination. Exactly how much roughage is desirable in the diet has not been determined, but we do know that some roughage is essential, and that too much may be irritating to the linings of the digestive organs.

Second, fruits and vegetables are rich in vitamins which are essential to health and happiness. Third, some fruits and vegetables are good sources of minerals which are vital to the body. Fourth, some fruits and vegetables are an excellent source of fuel value. Not all fruits and vegetables give us these food nutrients in equal quantities. Some are rich in vitamins, others are rich in mineral content, and still others are high in fuel value. Most of us cannot learn the exact food values contained in each kind of fruit or vegetable, but we can learn the special food values found in certain types of fruits and vegetables. For example, we can learn what food values are contained in the green and yellow vegetables, the citrus fruits, the green, leafy vegetables, and the "starchy" vegetables.

GREEN AND YELLOW VEGETABLES FOR VITAMIN A

Vitamin A is the same vitamin which is found in whole milk, cream, and butter. You will remember that it is added to margarine in order to make margarine as nutritious as butter. It is also found in many fruits and vegetables, especially those which are green, yellow, orange, and orange red. You can pick your vitamin-A vegetables by their color. If you know how to mix colors with water-color paints, you know that there is yellow in green, in orange, and in orange

red. Remember that these colors in vegetables mean that the vegetables contain vitamin A. Green lettuce, yellow sweet potatoes, tomatoes, peaches, and apricots are rich in vitamin A. But lettuce leaves bleached white, pears and white potatoes are lacking in vitamin-A content. Study the tables on pages 62 and 63 which show vitamin content in foods. You will notice that vitamin A is generally found in green, yellow, and orange-colored foods.

It is fortunate that vitamin A is supplied to us in so many different foods. It is the vitamin which prevents poor vision in dim light. Think how important this is to air pilots and to all fighting men. Vitamin A is also important for growth and resistance to disease. Plenty of vitamin A may help to prevent common colds.

THE CITRUS FRUITS FOR VITAMIN C

This group of fruits includes oranges, lemons, grapefruits, limes, and tangerines. These fruits are especially rich in vitamin C, which is also known as ascorbic acid. A vitamin-C deficiency in diet produces a dreadful disease called scurvy. There was a time when sailors on long voyages became infected with scurvy because their diets lacked vitamin C. Almost everyone in America gets enough vitamin C to prevent scurvy, but some do not get enough to prevent general poor health and low resistance to infection. Nearly all fruits and vegetables supply some vitamin C, but it is the citrus fruits that provide the best supply of this important vitamin.

You will remember that milk is not a good source of vitamin C. This is one reason why milk is not the completely perfect food. Young babies are often given orange juice to supplement the milk which is their first and only food.

Tomatoes are an excellent source of vitamin C, although not so good as the citrus fruits. You will have to drink more tomato juice than orange juice in order to get the same amount of vitamin C. Tomato juice is generally cheaper than orange juice, and some people like it better. Perhaps you will

prefer to buy your vitamin C in tomatoes rather than in citrus fruits.

Vitamin C cannot be stored in the body and, therefore, we need a fresh supply every day. Check up on your diet. Have you had your vitamin C today? The tables on pages 62 and 63 show the common fruits and vegetables that contain vitamin C. Study the tables to find out whether your diet includes many of the vitamin-C rich fruits and vegetables.

Remember that vitamin C is easily damaged. Heat and air destroy it rapidly. Orange juice which stands overnight in the icebox loses much of its vitamin C.

FRUITS AND VEGETABLES WITH THE B VITAMINS

In the early days of vitamin discoveries, one vitamin was called B. Later it was discovered that this vitamin is really a whole family of vitamins. At present there are three members with which we are acquainted. They are vitamin B₁ (thiamine), vitamin B₂ (also known as vitamin G or riboflavin), and niacin (also called nicotinic acid—*not* nicotine). Each of these vitamins helps to keep us strong and healthy, and they are found in many vegetables and fruits.

Thiamine has been called the morale vitamin because it helps us to keep our nerves steady. It also helps to prevent fatigue and poor appetite. Notice in the tables on pages 62 and 63 that there are a great many fruits and vegetables which are a good source of thiamine.

Riboflavin is the vitamin necessary for normal growth and general good health. You will remember that milk is a very good source of riboflavin, and you will notice in the vitamin tables that a great many fruits and vegetables are also good sources of this important vitamin.

Niacin is the vitamin which does most to prevent pellagra, a disease that afflicts a great many people in the United States. People with pellagra have skin trouble, poor digestion, and nervous troubles. This disease can be prevented by eating foods containing the B vitamins, particularly niacin.

<i>Check Shows Vitamins in Foods Listed</i>	<i>A</i>	<i>Thia- mine</i>	<i>Ribo- flavin</i>	<i>Niacin</i>	<i>C</i>	<i>D</i>
DAIRY PRODUCTS, EGGS						
Butter.....	✓					✓
Cheese.....	✓		✓			
Cream.....	✓					✓
Eggs, whole.....	✓	✓	✓	✓		✓
Egg yolk.....	✓	✓		✓		✓
Milk, whole.....	✓	✓	✓	✓		✓
MEAT, POULTRY, FISH						
Beef, lean.....		✓	✓	✓		
Chicken.....		✓		✓		
Codfish.....		✓	✓			
Fish-liver oils.....	✓					✓
Haddock.....				✓		
Kidney.....	✓	✓	✓		✓	
Liver.....	✓	✓	✓	✓	✓	✓
Mutton, lean.....		✓	✓	✓		
Pork, lean.....		✓		✓		
Roe, fish.....	✓	✓	✓			
Salmon.....	✓	✓		✓		✓
Sardines.....	✓	✓				✓
FRUIT						
Apples.....		✓	✓		✓	
Apricots.....	✓	✓	✓		✓	
Avocados.....	✓	✓	✓		✓	
Bananas.....	✓	✓	✓		✓	
Blackberries.....	✓	✓				
Blueberries.....	✓					
Cantaloupe.....	✓	✓	✓		✓	
Cherries.....					✓	
Cranberries.....					✓	
Currants, black.....	✓				✓	
Dates.....	✓	✓				
Figs.....		✓	✓			
Gooseberries.....					✓	
Grapefruit.....		✓	✓		✓	
Lemons.....		✓			✓	
Oranges.....	✓	✓	✓		✓	
Olives, green and ripe.....	✓					
Peaches.....	✓		✓		✓	
Pears.....		✓	✓			
Pineapples.....	✓	✓			✓	
Plums.....	✓	✓				
Prunes.....	✓	✓	✓			
Raspberries.....		✓			✓	
Strawberries.....	✓		✓		✓	
Tangerines.....		✓	✓		✓	
Watermelon.....	✓	✓			✓	

<i>Check Shows Vitamins in Foods Listed</i>	<i>A</i>	<i>Thia- mine</i>	<i>Ribo- flavin</i>	<i>Niacin</i>	<i>C</i>	<i>D</i>
VEGETABLES						
Asparagus, green.....	✓				✓	
Beans, lima.....		✓	✓			
Beans, navy.....		✓	✓			
Beans, snap.....	✓	✓	✓		✓	
Beet greens.....	✓		✓			
Broccoli.....	✓	✓	✓		✓	
Brussels sprouts.....	✓	✓			✓	
Cabbage.....	✓	✓	✓	✓	✓	
Carrots.....	✓	✓	✓			
Cauliflower.....		✓	✓		✓	
Chard.....	✓					
Collards.....	✓	✓	✓	✓	✓	
Corn, sweet.....		✓				
Cowpeas.....		✓	✓	✓		
Dandelion greens.....	✓				✓	
Dock.....	✓	✓			✓	
Eggplant.....		✓				
Endive.....	✓		✓		✓	
Kale.....	✓	✓	✓	✓	✓	
Kohlrabi.....		✓			✓	
Leeks.....		✓			✓	
Lettuce, green.....	✓	✓	✓			
Mushrooms.....		✓				
Mustard greens.....	✓	✓	✓	✓	✓	
Okra.....	✓					
Onions.....		✓			✓	
Parsnips.....		✓			✓	
Peanuts.....		✓	✓	✓		
Peas, dried.....		✓	✓	✓		
Peas, green.....	✓	✓	✓	✓	✓	
Peppers, sweet.....	✓	✓			✓	
Potatoes.....		✓			✓	
Radishes.....					✓	
Rhubarb.....					✓	
Rutabagas.....		✓			✓	
Soybeans.....		✓	✓	✓		
Spinach.....	✓	✓	✓	✓	✓	
Squash, yellow.....	✓	✓				
Sweet potatoes.....	✓	✓			✓	
Tomatoes.....	✓	✓	✓	✓	✓	
Turnip greens.....	✓	✓	✓	✓	✓	
Watercress.....	✓	✓	✓		✓	
CEREALS						
Corn meal, yellow.....	✓	✓	✓			
Whole grains.....		✓	✓			

Courtesy Office of War Information, Bureau of Human Nutrition and Home Economics

You will notice that the fruits are not good sources of niacin, but that certain vegetables—especially the greens, peas, and peanuts—are rich in this vitamin.

GREEN, LEAFY VEGETABLES FOR IRON

Iron is supplied in our diets by the green, leafy vegetables—broccoli, chard, spinach, lettuce, and other greens. Green lima beans and peas are also good sources of iron. Our bodies must have an adequate supply of iron. It helps the blood to absorb oxygen and to carry it to all parts of the body. Iron is also an essential part of all active cells in the body. If too little iron is present, anemia is likely to result. All the iron in the average body weighs only as much as a penny, but that pennyweight of iron is vital to health.

Milk is not an iron-rich food. This is another reason why milk is not a completely perfect food. Remember that green, leafy vegetables, lima beans, and peas are the iron-rich vegetables. Dried fruits—peaches, apricots, and prunes—are the iron-rich fruits. There are other iron-rich foods which you will learn about in Units 4 and 5.

FRUITS AND VEGETABLES WITH HIGH FUEL VALUE

Every machine needs fuel to make it go, and the human body also needs fuel in the form of food to make it go. Food used for fuel in the body is measured in terms of calories. All foods furnish the body with some fuel, but certain foods have a much higher calorie content than others. One pound of raspberries give us about twice as many calories as one pound of strawberries. One pound of potatoes supply about three times as many calories as one pound of green cabbage. Potatoes, lima beans, corn, and peas are the best energy foods in the vegetable family. Sometimes these are called “starchy” vegetables. Bananas, dates, and dried fruits are the energy-rich foods in the fruit family.

After consumers have learned which kinds of fruits and vegetables they need for health, the next problem is to learn how to select good qualities. Obviously, there is not room in this book to discuss the quality of all the fruits and vegetables which are sold in your markets. However, a study of important points in the selection of a few fruits and vegetables will help in the selection of all other types.

Hints on buying oranges. 1. A good orange is heavy for its size. This means that it is juicy.

2. The skin of an orange should be firm and fine-textured. Loose, flabby skins and thick skins often indicate a dry, poor-quality orange.

3. Avoid oranges with spots of decay or soft, wet spots. Surface blemishes, scratches, and discolorations do not injure the eating quality of an orange. An orange with a skin blemish is better value than an orange with a smooth skin which is spongy and lightweight.

4. Select the right orange for your purpose. If you want orange juice, select a thin-skinned, soft, "juice" orange. The Valencia orange from California, Texas, and Florida is the most common type of "juice" orange. If you want an orange to eat, choose the navel orange. The navel orange is seedless, thick-skinned, and rich-colored. It comes chiefly from California. The navel oranges are most plentiful through the winter months, and the Valencias through the summer.

5. Good oranges are not always orange in color. Many people think that an orange is not fully ripe unless it is a deep orange color, but this is not always true. The Valencia oranges often turn greenish when fully mature. Since consumers generally want oranges that are orange in color, growers and dealers have found a way to give them what they want. Greenish oranges that never turn a true natural orange color are treated with ethylene gas. This treatment brings out the orange color in the skin of the orange, but it does not affect the inside. Gassing will not ripen an orange.

Another method of coloring oranges is by dipping the oranges in dye. These oranges must be labeled "Color added." The dye is harmless, but sometimes the oranges are overheated in the dyeing process and develop an off-flavor or decay.

Coloring oranges to satisfy consumer ideas about color is an added expense which the consumer must pay for. Is it not unfortunate that consumers do not understand that green-colored oranges may be fully ripened fruit?

Some oranges, especially those from Florida and Texas, may be "russet" colored. This appears as a brownish discoloration on the surface of the orange skin. Russetting does not affect the inside of the oranges, so we must remember that russet oranges may be very good oranges.

6. Buy medium-sized oranges when possible. Oranges are sorted for size according to the number that can be packed into an orange crate. The sizes range from No. 80 (80 to a crate) to No. 392 (392 oranges to a crate). Medium-sized oranges range from No. 150 to No. 216. These medium sizes generally give the best value for your money.

Hints on buying bananas. 1. Solid yellow color, streaked and flecked with brown, indicates fully ripened fruit. In the case of red bananas a solid red color, marked with brown, indicates ripe fruit. Bananas with green tips, or with solid red or solid yellow spots but no brown spots, are not ready for eating.

The banana is one fruit that will ripen after it has been picked green. All bananas are shipped green. Sometimes we find green ones in our markets. If you do not want to use your bananas immediately, select those which are not fully ripe and allow time for them to ripen before using them.

2. A banana that is plump and well filled out is of better quality than a thin one.

3. Avoid bruised or decayed fruit. Bruises are indicated by blackened spots on the skin.

4. Avoid bananas that have been cut or torn from the stems, leaving the flesh of the fruit exposed.

Hints on buying strawberries. 1. A full, solid red color indicates fully ripened berries. Berries with green or white tips are immature and flavorless.

2. Berries should be bright, free from moisture, and fresh in appearance. Dull, lusterless, and shrunken berries are likely to be wet and leaky. This means that the berries are overripe and in poor condition. Leaky berries are often indicated by stained containers.

3. Strawberries should be clean and free from sand and dirt. It is difficult to wash the sand and dirt away, and the berries may be damaged by washing.

4. Strawberries are the only berries that are allowed to wear their caps. The green hulls should be attached. Beware of strawberries with no green hulls. This may indicate that the berries are overripe. Other kinds of berries, such as raspberries, should never wear their caps, because it indicates that they are picked too green.

Hints on buying lettuce. 1. Select heads of lettuce which are firm and heavy for their size. This indicates that the heads are well formed and that the leaves are tightly packed.

2. Lettuce should be fresh and crisp. Avoid wilted, ragged, bruised, and decayed lettuce. Often these defects can be removed by trimming the lettuce, but you should not pay as much for a trimmed head of lettuce as for a fresh one.

Hints on buying potatoes. 1. Color and shape do not indicate quality in potatoes. Different varieties are white, brown, or red in color and round, long, or flat in shape. Any of these varieties may be good quality.

2. Potatoes should be sound, smooth, and shallow-eyed. Avoid knobby, pointed, and crooked potatoes, since these are not economical to use.

3. Medium-sized potatoes are most desired by consumers, but other sizes may give good value, depending upon the use.

4. Avoid potatoes with defects, such as cuts, bruises, rot, and sunburn. Potatoes with sunburn show green spots on the surface. These potatoes have been exposed to light for too long a time. They have a bitter taste.



Courtesy American Fruit Growers, Inc.

Harvesting potatoes in Maine.

5. Avoid shriveled, soft, and spongy potatoes. They do not cook satisfactorily.

The hints given here on buying oranges, bananas, strawberries, lettuce, and potatoes should be helpful to some extent in learning to buy other fresh fruits and vegetables. Some of the rules for buying oranges can be applied to other citrus fruits. Some of the rules for selecting strawberries can be applied to other kinds of berries. However, each fruit and vegetable has different characteristics, so no one set of rules can be used to select good quality in all fruits.

U.S. GRADES FOR FRESH FRUITS AND VEGETABLES

The United States Department of Agriculture has established standards for different qualities in many fruits and vegetables. The use of these quality standards is entirely per-



Courtesy American Fruit Growers, Inc.

Attractive displays of top-quality fruits and vegetables invite the consumer to buy.

missive or voluntary. No handler of fresh produce is required to use quality grades unless he wishes to do so. However, more than one third of all the fresh fruits and vegetables sold are graded for quality.

Each fruit or vegetable has its own set of quality grades. Government grades for apples are U.S. Fancy; U.S. No. 1; U.S. Commercial; U.S. No. 1 Early; U.S. Utility; U.S. Utility Early. It requires considerable experience to understand the differences among these grades. The difference between U.S. Fancy apples and U.S. No. 1 apples is in the amount of color in the skin of these apples. The difference between U.S. No. 1 and U.S. No. 1 Early is that U.S. No. 1 Early applies to early varieties which are picked before they are mature.

Permissive quality grades for strawberries are U.S. No. 1 and U.S. No. 2. Quality grades for potatoes are U.S. Fancy; U.S. Extra No. 1; U.S. No. 1; U.S. Commercial; and U.S. No. 2. There are different classifications for different fruits and vegetables, and it would require considerable study on the part of the consumer to learn how to use these grades. However, the consumer need not worry about this prob-

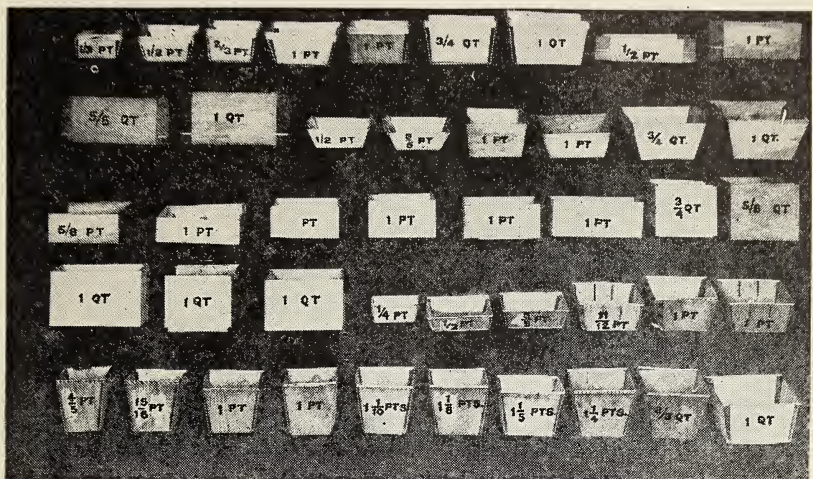
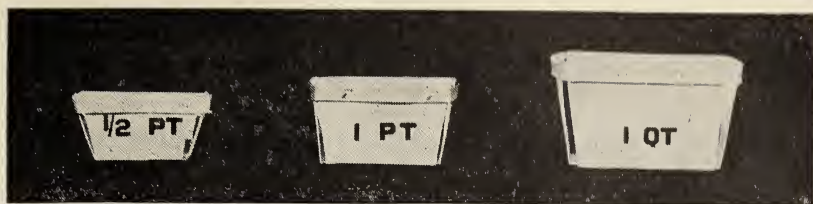


Courtesy Food Distribution Administration, U.S. Department of Agriculture

The U.S. Standard Container Act of 1928 established the six standard sizes of market or splint baskets shown in the top picture. In the bottom picture are shown some of the sizes of market or splint baskets used before standardization, resulting in confusion, deception, and fraud.

lem because U.S. grades for fruits and vegetables very seldom reach the consumer. They are used by the growers, wholesalers, and retailers for buying and selling. Growers may grade their produce and sell to a wholesaler in a distant city with the understanding that the produce meets a certain U.S. grade. In this way the wholesaler knows what he is getting without a preliminary inspection. Speed is very important in handling fresh fruits and vegetables because quality deteriorates rapidly.

The quality grade is marked on the containers of the fruits and vegetables before they are shipped. Although the produce may reach the retailer with the grade marking on the container, he generally takes the fruits and vegetables from their containers and puts them on his counters for display. Thus, the grade label is not available to the consumer. Occasionally, consumers find potatoes in sacks labeled U.S. No. 1.



Courtesy Food Distribution Administration, U.S. Department of Agriculture

The U.S. Standard Container Act of 1916 established the three standard sizes of berry baskets shown in the top picture. In the bottom picture are forty-four different kinds of berry boxes commonly used before the first Standard Container Act was passed in 1916.

While these are good potatoes, the consumer should remember that there are two other better grades of potatoes.

There is one special reason why it is difficult for quality grades to be passed along to consumers. Fruits and vegetables deteriorate very rapidly. A lot of tomatoes graded U.S. No. 1 may not grade higher than U.S. No. 2 by the time they reach the consumer.

Many states have established quality grades for fresh fruits and vegetables. These quality grades may or may not be like the U.S. grades. You can find out about quality grades for fresh fruits and vegetables in your state by having

a member of your group write to the state Department of Agriculture.

SHALL WE BUY POUNDS, PECKS, OR DOZENS?

Some fruits and vegetables are sold by the pound; others are sold by quart, peck and bushel; and others are sold by the dozen. Sometimes potatoes are sold by the peck or bushel, sometimes by the pound. Such fruits as apples and plums are sometimes sold by the dozen, sometimes by the pound. Generally it is advantageous for the consumer to purchase by the pound. Unless apples are uniform in size, you will get better value for your money if you buy by the pound rather than by the dozen. In the case of oranges it would always be preferable to buy by the pound than by the dozen. Juicy oranges are heavy. If you pay the same price per dozen for lightweight oranges that you pay for heavy oranges, you are not getting good value. During the Second World War, the government ordered dealers to sell oranges by the pound. Do you think this is a good plan for peacetime?

Containers for fruits and vegetables have been standardized by federal laws called the Standard Barrel Act of 1915, the Standard Container Act of 1916, and the Standard Container Act of 1928. These laws were passed by the United States Congress in order to simplify the buying and selling of fruits and vegetables. The picture on page 71 shows the berry baskets used before and after the Standard Container Act of 1916. The picture on page 70 shows the different sizes of market baskets before and after the Standard Container Act of 1928. Imagine trying to figure out whether you were getting your money's worth with more than forty odd-sized berry baskets in the markets!

FROM GROWERS TO EATERS

The handling of fresh fruits and vegetables from farm to kitchen is very complicated. In order to understand price

and quality, we should know what happens to our oranges and lettuce between harvesting and eating.

Your fruits and vegetables may grow in your own backyard, but more likely they grow hundreds or even thousands of miles away. Fruits and vegetables do more traveling than any other food product. Oranges grown in California are eaten in New York; apples grown in Washington are eaten in Chicago; and lettuce grown in Texas is eaten in all the northern states. Fruits and vegetables are very perishable, some more so than others. Each kind of fruit and vegetable requires the right kind of care in transit. Lettuce is packed in crates with paper and crushed ice between the layers. As the ice melts, it keeps the lettuce moist. Refrigerated cars maintain a low temperature.

Refrigerated cars have transformed our markets and our eating habits. There was a time when we depended chiefly on dried or canned fruits and vegetables during the winter months, but now we expect fresh produce at any time of the year.

Great produce markets have grown up in large cities. Some of these are railroad terminals to which the fruits and vegetables are shipped by train; others are street markets to which produce is brought by truck; and still others are located on piers which are supplied by boat. The ideal produce market is one in which fruits and vegetables are received by all available means of transportation. The buyers for retail stores do not have to waste time going from one market to another in order to get all the fruits and vegetables which they need in their stores. Many of these produce markets are very crowded and poorly arranged. This results in wasted time for both buyers and sellers and in spoilage because of poor handling of the fruits and vegetables. All this must be paid for by the consumer.

Fruits and vegetables may pass through several hands between farm and kitchen. The grower may send his vegetables to a central packing house in his own district where they are packed for shipping. The packing plant may be

owned by growers, by shippers, or by an independent company which charges the grower for service in packing. From the packing plant the vegetables may be sent by refrigerated car to a distant city. A wholesaler in the city buys a carload of the vegetables without having seen them. The transaction is completed by wire because there is no time for the buyer to inspect the vegetables. If some of the vegetables spoil before they reach the city, the buyer does not want to pay for the damaged products. To determine the damage, he may call upon an agent of the United States Department of Agriculture, who will inspect the carload of vegetables and certify the amount of each quality grade and the amount which is so badly spoiled that it cannot be sold. Damage claims are paid on this basis. Inspectors from private companies or inspectors for the railroad companies also will make inspections to determine the condition of a carload of fruits or vegetables.

How does the farmer know where he can get the best price for his produce? He may ship to any one of several different points, but naturally he wants to get the highest price. If he is shipping green beans he will determine where the best price is paid. If there is a big supply of green beans in one market, the price will not be so high as in another market where the supply is not so plentiful. In order to keep farmers and wholesalers informed about market conditions, the Department of Agriculture has established the Marketing News Service. This service sends observers to the markets where they watch incoming shipments of fruits and vegetables. They telephone or wire their observations to field offices. The field offices send reports to Washington. Next, the news of shipments is analyzed and statements about supplies of different fruits and vegetables and their prices are sent to newspapers and reported by the radio to the public. Thus the farmers can find out about conditions in different markets and decide where it is best for them to send their produce.

You can see that fruits and vegetables may travel a long

and speedy journey before they reach your table. They may have been handled nine or ten times. This means that the services of a great many people are required to get a head of lettuce from a Texas field to your dinner table. An army of workers is required to get our fruits and vegetables from the farms to our kitchens. All these people must be paid for their services, and they are paid by consumers. Each of these workers has some part in supplying us with fruits and vegetables, and so we must pay for their services. Suppose that you spend a dollar for some oranges and some potatoes. Where does your dollar go? Of course, you hand the dollar to the grocer, but he does not keep all of it. The dollar must pay the grower, the packer, the shipper, the railroad, the wholesaler, and the retailer. Generally, the larger portion of the dollar pays for distribution and the smaller portion for production. This means that we pay more to get our fruits and vegetables from the fields to our tables than we pay to the farmer for growing them. Some people think that distribution costs are too high. They say that there should be a more simple and less expensive way to distribute fruits and vegetables. Sometimes the farmer receives less than forty cents out of each dollar that the consumer pays for fresh produce. The point to remember is that we pay more for distribution services than for the production of our fruits and vegetables.

PROCESSED FRUITS AND VEGETABLES

Modern science has found several ways of processing fruits and vegetables for consumers. Processed fruits and vegetables need not be rushed from farm to kitchen. Therefore, a certain amount of expensive handling and a certain amount of spoilage can be eliminated. Processed foods may be canned, frozen, dehydrated, or dried. Each of these processes has some effect on food values and on the price you pay.

U.S. STANDARDS FOR CANNED FOODS

The Federal Food, Drug, and Cosmetic Act says that canned fruits and vegetables must meet a government standard. The requirements for these standards include (1) identity, (2) quality, and (3) fill of container. For example, the standard for canned tomatoes says that the can must contain only tomatoes and no other material used to imitate tomatoes. The tomatoes may be in large or small pieces and must have a normal tomato flavor. The color must be fairly red. The tomatoes must be fairly free from defects. Definitions and standards of identity are worked out in great detail, but this description will give you a general idea of the standard for tomatoes. The can must be well filled in order to meet the government requirement for fill of container. Only a small amount of space between the tomatoes and the top of the can is permissible. If the can of tomatoes does not meet the requirement for fill of container it must be labeled "Slack Fill."

If tomatoes are canned which do not meet the government standard, the cans must be plainly labeled so as to indicate that the contents are below standard. The labels may read "Below Standard Quality—Good Food—Not High Grade," or "Below Standard Quality—Poor Color" or "Below Standard Quality—Thin Fleshed," or a similar label may be used which tells why the contents of the can are below the government standard for quality.

Government standards have been established for most of the common fruits and vegetables. These standards require a reasonably good quality. The products taste good and are high in food value. Pieces of fruit or vegetables need not be uniform in size, color, or maturity. Fruits may be packed in either sirup or water.

Everyone should learn the standard qualities for the canned fruits and vegetables which he buys. Have someone in your class write to the Food and Drug Administration in Washington, D.C., for the quality standards for the fruits and vegetables in which your class is most interested. Then

look for cans of these fruits and vegetables which are labeled "Standard Quality." When you open a can, examine its contents with the government standard in mind.

QUALITY GRADES IN CANNED GOODS

The standard for canned fruits and vegetables which we have just been discussing is a mandatory standard. All canned goods must meet the government standard or be labeled to show that they are below standard.

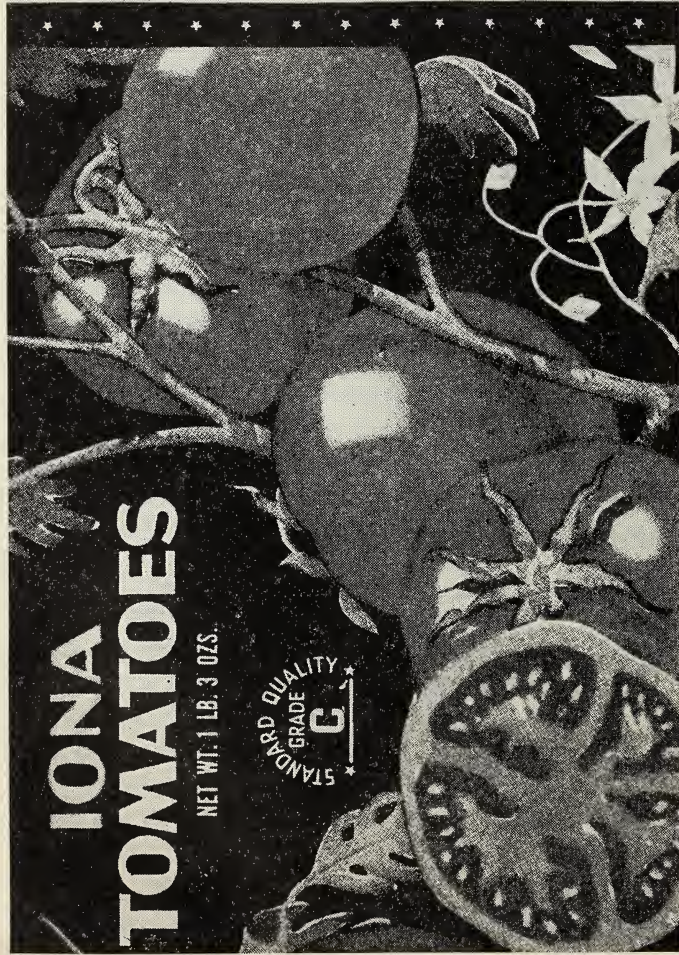
There are four quality grades for canned fruits and vegetables. We have mentioned the quality which is known as "Standard Quality" or Grade C. Below this quality is the substandard grade known as "Below Standard in Quality." This is the only grade which must be labeled for quality. Above the Standard or Grade C quality are Grades A and B. Grade A is known as "Fancy" and Grade B is known as "Choice." Grades A, B, and C are permissive grades. The canner need not label them for quality grades unless he wishes to do so. There is much argument among canners, government experts, and consumers whether canned goods should be labeled for quality grades. Most consumers and some of the canners like to have all canned goods labeled according to its quality. Many of the canners object to labeling their products for quality. They prefer to use only brand names to indicate quality. Other canners use both brand names and Grades A, B, and C.

When you are buying fresh peaches or snap beans, you can see the product for yourself and judge the quality fairly well. When you are buying peaches or beans in a can, you can see nothing and must depend entirely upon the labels. All canned fruits and vegetables can be classified according to one of the four quality grades—A, B, C, or Substandard. Do you not think consumers should be able to find out from the label what is inside the can?

When tin became scarce during the Second World War, canners were restricted in their supplies of tin. Many of

IONA TOMATOES

NET WT. 1 LB. 3 OZS.



IONA TOMATOES

Our Thrift Quality

This can is one of a lot from which samples have been tested and rated

GRADE C

THE MEANING OF "GRADE C"

Sanitary and packing regulations are the same for all three grades (A, B and C) and all have practically the same wholesomeness and nutritive value. Grades A and B usually bring a premium for their better appearance and more delicate flavor. Grade C foods are standard quality, good but not fancy, and suitable for all general purposes. They appeal to careful home managers. No one need hesitate to serve them on any occasion.

To qualify as "Grade C"

Iona Tomatoes must meet the following requirements—Have a drained weight of not less than 50 per cent of the capacity of the can • Small or large pieces with or without whole or almost whole tomatoes • Fairly red in color • Fairly free from defects • Normal tomato flavor

This can of Iona Tomatoes is:

CAN SIZE.....No. 2
CONTENTS.....1 lb. 3 oz. or about 2 1/4 cups
SERVINGS.....4 or 5

Other Tomatoes available

GRADE A

A&P Brand—Our Highest Quality

GRADE B

Sultana Brand—Our Medium Quality

Courtesy The Great Atlantic and Pacific Tea Company

The labels on these pages are found on canned goods which conform to United States Government grades: Grade C quality (above); Grade A quality (top of opposite page); Grade B quality processed under continuous inspection by government inspectors (bottom of opposite page).



VINE RIPENED

Tomatoes

WITH ADDED-STRAINED TOMATOES

NET WT

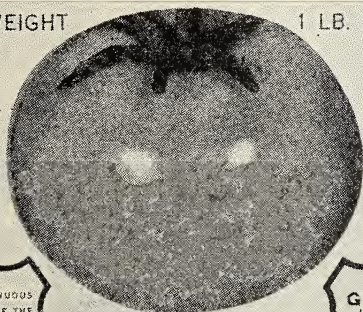
1 LB 3 OZ

THE GREAT ATLANTIC & PACIFIC TEA CO., NEW YORK, N. Y. DISTRIBUTORS

Courtesy The Great Atlantic and Pacific Tea Company

NET WEIGHT

1 LB. 3 OZ.



U. S.
GRADE

B



D. E. WINEBRENNER CO.



DEWCO
GRAND
TOMATOES

Courtesy D. E. Winebrenner Company

them canned their products in clear glass jars. This was helpful to consumers because they could see the contents of each jar and judge the quality to some extent.

The very best canned fruits and vegetables are classified as Grade A or "Fancy." The vegetables are the most tender and well colored. The fruits are meaty, ripe, and well colored. The pieces are uniform in size and free from blemishes. Grade B quality means that the product is not quite so perfect as Grade A, but it is better than Grade C. Grade A tomatoes are all whole, have a fine red color, and a normal tomato flavor. Grade B tomatoes are whole or in large pieces. They are red in color and have a normal tomato flavor.

Remember that all four quality grades are wholesome and nutritious. Grade C has just as much food value as Grade A or B. Remember also that it is not always necessary or desirable to buy Grade A quality. If you are going to use tomatoes in soup, why pay for fine, whole tomatoes which will be broken up in cooking? If you are planning to make cherry cobbler, why pay for Grade A cherries? Save the Grade A cherries for tarts and salads. Plan the way in which you will use your canned fruits and vegetables before you decide what grade to buy.

On some canned-goods labels you will find U.S. Grade A, U.S. Grade B, or U.S. Grade C. The U.S. in front of the grade means that the product was packed under the supervision of a government inspector. This government expert inspects the food continuously while it is being canned. Continuous inspection of food processing in the canning factory is furnished by the Department of Agriculture to any canner who wishes to have it. It is paid for by the canner. There is no difference in quality between Grade A and U.S. Grade A; between Grade B and U.S. Grade B; or between Grade C and U.S. Grade C. The U.S. prefix means that the food was packed under government inspection. U.S. grades are indicated by a shield-shaped design like that shown on the label from a can of tomatoes in the lower picture on page 79.

READ YOUR LABELS

It is extremely important that consumers should read the labels on canned goods. The United States Congress passed the Federal Food, Drug, and Cosmetic Act which requires certain information to be printed on the labels of canned goods and makes certain other information optional. This law is for the benefit of consumers. It requires the label to tell the common name of all ingredients, the name of the packer or distributor, the amount of the contents, and permits grade labeling and other descriptions of the contents. Do your part and read the labels.

Grade labeling of canned goods is always of great importance to the consumer. When prices are high it is especially important that consumers should know what quality they get for their money. During the Second World War, the Office of Price Administration asked the canners to label all cans for quality grade in the 1943-pack.

CAN SIZES ARE IMPORTANT

Tin cans of many shapes and sizes are used in canning. You can buy fruits and vegetables in tall cans, short cans, round cans, square cans, flat cans, little cans, and big cans. Some cans hold less than other cans which appear to be the same size. Some cans hold the same amount as other cans which appear to be smaller. There are at least 155 different sizes of cans on grocers' shelves.

This creates a real problem for the consumer who wants to get the most she can for her money. The contents in pounds and ounces are marked on each can because this is required by the Federal Food, Drug, and Cosmetic Act. It would take considerable time and arithmetic to figure out how much you are paying per pound or per ounce every time you buy a can of fruit or vegetables. It pays to do this figuring, however, when you buy the same-sized cans frequently.

Consumers may ask why it is that they must take their fruits and vegetables in so many different-sized cans. There are several reasons. First, there is no law which controls can sizes, so each packer chooses a size of can which pleases him. Second, the canner may wish to compete with another canner. He will pack his product in a slightly smaller can and charge less. Consumers are likely to think they are getting the same amount of food for less money. Third, certain fruits and vegetables require specially shaped cans. For example, the shapes of pineapple slices and asparagus stalks are not adapted to the same can.

Most canners, as well as consumers, would like to eliminate the confusion of can sizes. Many canners have co-operated with the National Bureau of Standards in Washington in the attempt to reduce the number of can sizes. In 1940 an agreement was reached to reduce the number to 41 different can sizes. This agreement between the canners, can manufacturers, and the National Bureau of Standards is called "Simplified Practice Recommendation R155-40 for Cans for Fruits and Vegetables." It is a permissive standard which canners may use if they wish.

To consumers it seems that 41 can sizes are still too many. In general it is cheaper to buy fruits and vegetables in the larger cans, but we cannot be sure that this is always true. In 1942 during the Second World War the Office of Price Administration issued an order which still further simplified can sizes. The canners were asked to use only three can sizes, known as No. 2, No. 2½, and No. 10. Only a few exceptions were allowed for special foods, such as milk and baby foods.

No. 2 contains about 20 ounces

No. 2½ contains about 29 or 30 ounces

No. 10 contains 6½ or 6¾ pounds.

Three can sizes instead of 155 can sizes to choose from is a great help to consumers who want to get their money's worth.


DRIED AND DEHYDRATED FRUITS AND VEGETABLES

Drying is a very old method of preserving fruits and vegetables and was used by our ancestors for many generations. Apples, peaches, and corn were spread on a sunny porch to dry. By this method the moisture in the fruits and vegetables was evaporated by long exposure to the warm sunlight. Half of the California prunes sold in the market today are sun-dried. The other prunes from California and from the northwestern states are dried by artificial heat. This is called dehydrating. Apples, peaches, pears, and other fruits which are dried in a dehydrator are called dried fruits. The standard set by the Food and Drug Administration does not allow more than 24 to 26 per cent moisture in fruits which are labeled "dried."

The process of drying fruits changes the food values of fresh fruits to a great extent. Fuel value is increased tremendously in dried fruits. Mineral content is increased to some extent and in some cases vitamin content is slightly increased. The increase in fuel value is easy to understand when you remember that dried fruits are a concentrated form of food.

Dehydrated fruits and vegetables are really "dried" foods, that is, water has been removed from them. When not more than 5 or 6 per cent moisture remains in the fruits or vegetables, they are called dehydrated foods. Dehydrated foods were used to some extent during the First World War for troops in the expeditionary forces. Dehydrated fruits and vegetables were not at all popular with the soldiers at that time because the fruits and vegetables were not appetizing. During the Second World War the process of dehydration was very much improved.

Dehydrated foods are of the greatest importance in war-time. They are much less heavy and much less bulky than either fresh foods or canned foods. This means less ships, no refrigeration, and quicker transportation. When the process of dehydration is perfected it is very likely that dehydrated foods will become popular with everyday consumers.



**U.S. GRADE
A
FANCY**

PACKED UNDER
CONTINUOUS
INSPECTION
THE U. S. DEPT. OF
AGRICULTURE

**LOOK FOR THESE
U.S. SEALS ON
BAXTER'S
FINEST**

STATE OF MAINE -- GARDEN FRESH

Sweet Corn—Sugar Peas—
String Beans—Shell Beans, etc.

Prepared under the "Continuous Inspection" plan of the U. S. Dept. of Agriculture. Government inspectors are on duty at the Baxter plant during the entire packing season. The U. S. grade A seal on the label is the public's guarantee of the very finest quality.

DEHYDRATED *Maine* VEGETABLES

H. C. Baxter & Bro. are the first in this part of the country to develop this new type of food processing and since Pearl Harbor our entire production has been taken by the United States Army. Because vegetables that have been dehydrated take up only a small part of the space and but a fraction of the weight of fresh or canned vegetables, and with preservation insured, they can be shipped to the most distant battle fronts.

If production is sufficiently increased, some of Baxter's Finest Dehydrated Maine vegetables may be available to the general public in the near future. Vegetables now being dehydrated include selected Potatoes, Peas, Corn, and String Beans. This new type of processed foods offers many economical advantages to the consumer.

Write for FREE Baxter's Finest folders on U. S. Continuous Inspection and Dehydrated Maine Vegetables

H. C. BAXTER & BRO.

BRUNSWICK
MAINE

Courtesy H. C. Baxter & Brothers

An informative advertisement that is helpful to consumers.

Food values in dehydrated foods vary, but in general, the minerals and calories do not vanish with the water. Some vitamins do disappear with the water.

The advertisement above indicates that dehydrated vegetables may be available to consumers in greater quantities than at present. This is an informative advertisement which is helpful to consumers. Notice the emphasis on grade label-

ing of processed vegetables and the "Continuous Inspection" Plan.

QUICK-FROZEN FRUITS AND VEGETABLES

Since 1930 quick-freezing has been used as a method of preserving fruits and vegetables. Many food markets now sell packages of frozen fruits and vegetables which can be used in the same way that fresh fruits and vegetables are used. They must be kept frozen until they are used. After they have thawed out, they cannot again be successfully frozen.

Consumers in many rural communities can plan for their own frozen foods. Cold-storage locker plants have been built in many communities in the western part of the United States. Each family can rent a locker in which to store its food. The fruits and vegetables may come from the family garden, or they may be bought when prices are low and quality is the best. Strawberries, raspberries, rhubarb, peas, beans, asparagus, and meats can be successfully preserved in such cold-storage lockers.

Home freezing and storage cabinets have been available during the past few years. These can be installed in any home which has electricity. This makes cold storage for foods possible in your own home.

PROTECTION BY THE UNITED STATES GOVERNMENT

Both state and federal governments protect our safety when we buy fruits and vegetables. Cases recorded in "Notices of Judgment Under the Federal Food, Drug, and Cosmetic Act" show us how the law applies to both fresh and processed fruits and vegetables.

2720. Adulteration of apples. U.S. v. 55, 50, and 75 bushel baskets of apples. Consent decree of condemnation. Product released under bond for washing and reconditioning.

These apples bore spray residue containing excessive amounts of arsenic and lead.

2728. Adulteration of frozen strawberries. U.S. v. 56 barrels of frozen strawberries. Consent decree of condemnation. Product ordered released under bond for salvaging.

Examination showed that this product contained moldy berries.

2729. Misbranding of canned cherries. U.S. v. 99 cases of canned cherries. Consent decree of condemnation. Product ordered released under bond to be relabeled.

Examination showed that this product failed to conform to the standard of quality for canned cherries because of the presence of more than 1 pit per 20 ounces of cherries, and more than 15 per cent of the cherries in the container were blemished. The product also fell below the standard of fill of container.

2763. Adulteration of dried apricots. U.S. v. 515 cases and 35 boxes of dried apricots (and 3 other seizure actions against dried apricots). Consent decree of condemnation. Product ordered released under bond for segregation and destruction of unfit portion.

Samples of this product were found to be insect-infested, dirty, and moldy.¹

POINTS ON BUYING FRUITS AND VEGETABLES

The consumer's big problem is how to get the best value for his money. When buying fruits and vegetables this includes food values, pleasant taste, quality, and clean, hygienic products. Remember what you have learned about these points when you select your fruits and vegetables. Following are some general suggestions which will help you to summarize and use what you have learned.

1. Buy fresh fruits and vegetables by weight whenever possible. Two heads of cabbage may appear to be the same size, but one may be much heavier than the other.

2. Learn to distinguish between blemishes which are

¹ "Notices of Judgment Under the Federal Food, Drug, and Cosmetic Act." Food and Drug Administration. Federal Security Agency. August 24, 1942. Pp. 355, 357, 368.

harmful to quality and those which are merely surface blemishes. Avoid badly blemished or decayed fruits and vegetables.

3. Do not buy unless containers are well filled.

4. Shop personally, and early in the day if possible, for fresh fruits and vegetables.

5. Remember that the largest-sized fruits are not always the best values. This is especially true with prunes and oranges.

6. Handle fresh fruits and vegetables as little as possible. If it is necessary to feel of a piece of fruit to see whether it is ripe, do it in such a way that the fruit will not be injured.

7. Buy the size cans which give you the best value. Learn to compute costs of canned foods per ounce.

8. Buy the quality of fruit or vegetable which is suitable for its use. It is not necessary always to buy the best grade.

9. Read the labels and ask your dealer for any information which you would like to have about your fruits and vegetables.

10. Buy fresh fruits and vegetables in season. Learn the seasons when locally grown products are on the market. Prices are generally lowest when home-grown produce is in season.

11. Learn to compare food values and prices for fresh, frozen, canned, and dried fruits and vegetables.

SUGGESTIONS FOR DISCUSSIONS AND ACTIVITIES

1. Make a fruit and vegetable shopping list for your family for one week. The list may include both fresh and processed vegetables. Compare lists made by class members for food values and for economical selections.

2. Plan for a day when each member of the class will bring some fruits and vegetables. Arrange so that you will have several oranges, several potatoes, and several of some other fruit or vegetable. Compare the pieces of fruits and vegetables for quality.

3. What are the most common varieties of apples sold in your

stores? Try to secure specimens of each variety and learn the characteristics of each type.

4. If there is a cannery, a cold-storage plant, or dehydrating plant in your community, try to arrange a visit for your class.

5. What sizes of cans are now sold in your stores? How much does each size contain?

YOUR CONSUMER INVESTIGATIONS

1. Compare prices of fresh and processed fruits and vegetables. Find the cost of one pound of peas (cooked) bought in a can, frozen, and fresh. This will require buying and cooking some of the peas.

2. Compare prices of a fruit bought fresh, dried, canned, and frozen.

3. What fruits and vegetables are now in season in your markets? What fruits and vegetables should be in season next month? The next?

4. What quality labels on fresh fruits and vegetables can you find in your stores?

5. Bring labels from canned goods to class. Compare these for information which is of value to the consumer.

6. What fruits and vegetables in your markets can be bought by the pound?

~ 4 ~

BUYING MEAT AND EGGS

THE diet of most American families includes meat and eggs. Buying these foods involves special problems, and the well-informed consumer learns how to deal with them intelligently. First of all, you should know why meat and eggs are important in the diet. In order to get your money's worth, you should know what food values are to be found in meat and eggs. Next, you should learn as much as you can about different cuts of meat and their prices. You should also learn how meat is kept safe to eat, and how meat and eggs are graded for quality. Here is a test which will help you to find out how much you know about meat and eggs. (*Do not write in the book.*)

CONSUMER QUIZ

1. Lean meat is a good food for building muscles. True or false?
2. If you want to increase the amount of thiamine in your diet which meat will you choose?
Lean pork Bacon Beefsteak Veal stew Lamb chops
3. Which two minerals essential to the body are supplied in the largest amount by lean meat?
Phosphorus Copper Calcium Iron
4. The most expensive cuts of meat provide higher food values. True or false?

5. Eggs are vitamin-rich food with the exception of which vitamin?

Vitamin A	Thiamine	Riboflavin
Vitamin C	Vitamin D	Niacin

6. Meat, fish, poultry, and eggs are all good protein foods. True or false?
7. What safety sign should you look for when buying meat?
8. Which of the following terms refer to quality of beef?

U.S. Extra	Choice	Standard
Commercial	Super	Prime

9. Which of the following cuts are best suited to a limited food budget?

Chuck	Round steak	Flank steak
Loin chops	Rib roast	Porterhouse

10. The process used for grading eggs is called _____.

FOOD VALUE IN MEAT

Meat gives our bodies some of the same elements found in other foods. Lean meat is a protein-rich food and therefore is valuable in the diet for building muscles. Meat with fat is a very good energy food. It is a good fuel for our bodies. People who work hard physically require plenty of food with high protein and fuel content. Meat is one of the foods which meet this requirement.

Meat also supplies our bodies with some of the valuable minerals—phosphorus for building bones and teeth, and iron for building the blood. Lean meat is a good source of both phosphorus and iron. Liver and kidney are especially rich in iron.

Some vitamins are contained in meat. Lean pork, kidney, and liver are excellent sources of vitamin B₁ (thiamin). This vitamin, necessary for growth and health, is also found in milk and many fruits and vegetables. Another of the pro-

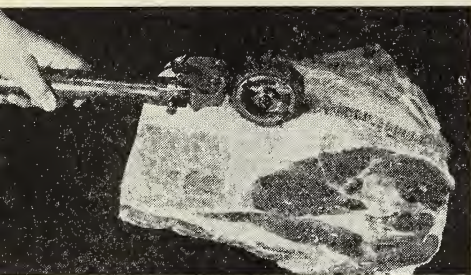
protective vitamins, B₂ (G or riboflavin) is also found in the lean muscle meats and in organ meats, such as kidney and liver.

Although meat supplies protective minerals and vitamins in the diet, we generally think of it chiefly as a protein food. We know that minerals and vitamins are found in other foods, but some of us do not realize that there are other protein-rich foods. During the Second World War there was a meat shortage and the government found it necessary to ration meat. People found that they would not starve without meat because there are other protein-rich foods. You have already learned that milk and cheese are rich in protein. Fish and poultry are good sources of protein. Still other good sources are whole grain cereals, such as oatmeal and cracked wheat. You will learn more about these cereal products in the next unit.

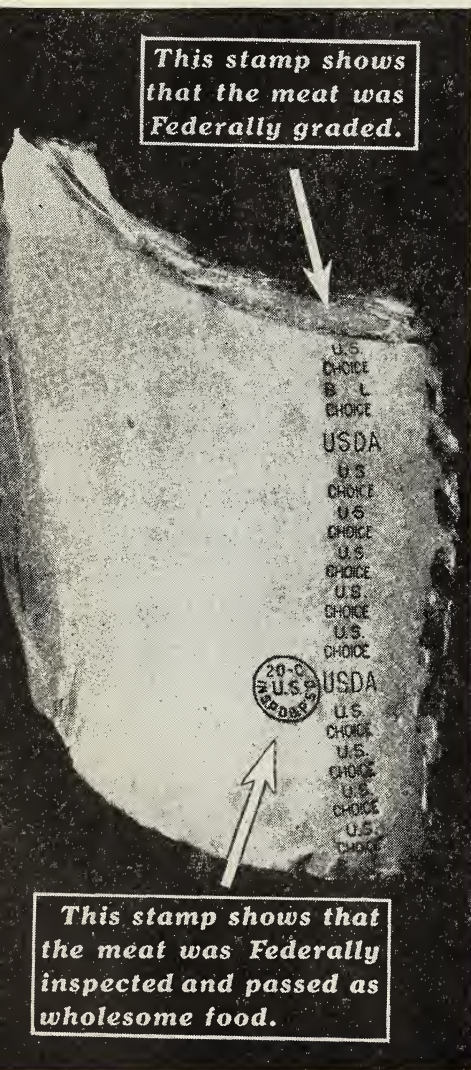
Most people get enough protein in their diets. Meat is a popular food because it has a flavor liked by most people and is a hearty food which satisfies the appetite. Some nutrition experts believe that people eat too much meat. People who eat a great deal of meat may satisfy their hunger without eating other essential foods, such as fruits, vegetables, and milk. Meat is expensive and people with limited food budgets may spend too much for meat and not enough for other foods. You must learn to eat all the kinds of food which are essential to your health and not too much of the kind you like best.

HOW SAFE IS YOUR MEAT?

The best guarantee for safe meat, free from disease germs and filth, is government inspection. Federal, state, and city governments all carry on meat-inspection services. Meat which is sold across a state line must be inspected by a federal inspector. This inspection is required by the Meat Inspection Act which was passed by Congress in 1906. This law is administered by the Bureau of Animal Industry. Any meat



***This stamp shows
that the meat was
Federally graded.***



***This stamp shows that
the meat was Federally
inspected and passed as
wholesome food.***

packer who wishes to sell meat in interstate commerce must provide a clean, sanitary plant. The inspection begins with the live animals. Diseased animals are condemned and destroyed. There are many diseases, including tuberculosis and cholera, which cause animals to be unfit for food. The inspection continues all the way through the packing plant. A federal inspector watches each step in slaughtering and dressing the animals.

Finally, an inspector puts the government stamp of approval on each carcass. It is a round label stamped in harmless purple ink and bears a number and the words "U.S. Insp'd & P'S'D." Study the label shown here. The number indicates the plant in which the animal was killed and dressed and the words are an abbreviation for "United States Inspected and Passed." About two-thirds of

Courtesy Food Distribution Administration

Quality grades for meat are stamped with a ribbon stamp, which extends the length of the cut. When the meat is cut up in the retail market, the quality grade usually shows on each piece. Note the round stamp which indicates government inspection for safety.

all the meat sold in the United States is government inspected. Most state and city governments carry on an inspection service for meats which are prepared locally. Some of these inspection services are as rigid and efficient as the federal meat inspection. Everyone should know how his local "home-dressed" meats are inspected. *Government meat inspection is your guarantee of safety.* No one can tell by looking at a pork chop in the butcher shop whether it contains dangerous germs, but you can tell whether it is stamped "U.S. Insp'd & P'S'D." If you are buying locally dressed meat, you should make sure that the state or city inspection service has protected you from filthy and diseased meat.

GUIDES TO QUALITY

Some meat is tough and some is tender. Most consumers cannot tell much about the eating quality of a beefsteak by looking at it. Since you cannot possibly sample it in the butcher shop, you need some guide which tells you whether your meat will be tender and juicy or tough and stringy. The federal government carries on a meat-grading service which is entirely separate from the inspection service. Remember that a beef roast may be quite safe and free from disease germs, but also as tough as shoe leather. The meat-grading service is maintained by the Agricultural Marketing Service, which is a division of the U.S. Department of Agriculture. This agency will furnish expert meat graders to any packer who wishes to have them. The grader's services are paid for by the packer, but the cost per pound of meat is very little. It costs the consumer about one tenth of one cent per pound for graded meat. This trifling extra cost is well worth while to the consumer who wants to know what quality of meat he is buying.

The quality grades for beef of the Agricultural Marketing Service are as follows:

Prime is the very best grade of beef. Very little of this grade is sold in retail markets because most of it is sold to exclusive restaurants. There is a great deal of solid fat in

prime beef, and the lean meat is well marbled with fat. The fat is white or creamy-white.

Choice is the second grade of beef and is the highest quality regularly sold in retail markets. Choice beef also contains considerable fat, and the lean meat shows considerable intermingling of the fat.

Good is the third grade and is a good quality which sells at a moderate price. There is less fat in this beef and it may have a slight yellowish tinge.

Commercial grade beef is sold in large quantities in retail markets. It has very little fat and the fat is more yellowish in color. This quality of beef is not suitable for broiling or roasting but is very good for pot roasting or stewing.

Utility grade beef is the lowest quality. There is still less fat in this quality, and the fat is decidedly yellowish or grayish-white.

Government beef grades are stamped with a "ribbon" stamp which leaves a solid band of stamping the length of the cut. This type of label is shown in the picture on page 92. When the meat is cut into smaller pieces by the butcher for his customer, the quality-grade stamp will show on each piece.

The same terms—U.S. Prime, U.S. Choice, U.S. Good, U.S. Commercial, and U.S. Utility—are used to indicate different qualities of veal and lamb. Government grades for pork are No. 1, No. 2, and No. 3.

Some meat packers use their own brand names for their best-quality meats. For example, one packer might always label his best-quality meat "Superfine" and his second-best quality "Festive Fare." These may be very good quality meats. However, the difficulty for the consumer arises when she cannot buy meat prepared by a packer whose labels she knows. Then she does not know how to select a good quality from meat with no brand name or with an unfamiliar brand name. There is another disadvantage in depending only on brand names. The "Superfine" quality may not be so good one year as it was the previous year. It may not be so good

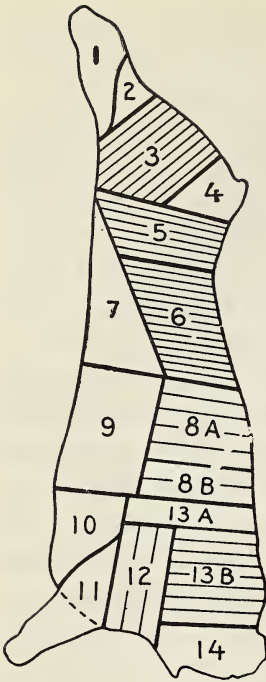
in one part of the country as in another part. *Government grades are constant grades.* They do not vary in quality from year to year, or in different parts of the country.

Many consumers do not understand the importance of quality-graded meat. They do not know that a quality grade stamped on their meat can help them to get better value for their money. Suppose that two meat markets in the same district sell sirloin steak on the same day at different prices. The Quality Meat Market sells sirloin for 35 cents a pound, and the De Luxe Meat Market sells sirloin for 42 cents a pound. How do you know which sirloin will give you better value for your money? Unless the sirloin is stamped with quality grades you cannot be sure of the quality until you take it home and cook it. If you buy the 35-cent sirloin and find that it is so tough you can hardly cut it, you will wish that you had bought the 42-cent sirloin. On the other hand if you buy the 42-cent sirloin, you will wonder whether you should have bought the cheaper meat. It may have been just as tender as the 42-cent sirloin. *Price is no guide to quality.* Buying the most expensive meat does not always guarantee your getting the best quality.

Consumers should demand quality grading on their meats. When meat packers and butchers learn that consumers really want quality-graded meat, they will be quick to supply consumers with graded meat. Ask your butcher for government-graded meat. You cannot hope always to get your money's worth until you can buy meat that is graded for quality.

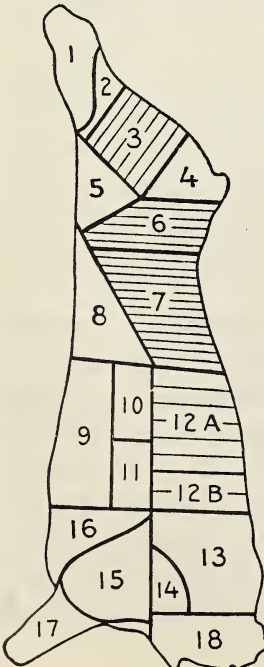
During the Second World War the federal government made a serious attempt to help people get their money's worth. The Office of Price Administration made many rules and regulations designed to help consumers. One of these rules required meat packers to grade all wholesale cuts of meat for quality. The packers did not have to employ government graders but could grade the meat themselves. They were required to grade their meat AA, A, B, or C. Grade AA corresponds to U.S. Prime and U.S. Choice; Grade A

BEEF (CHICAGO METHOD)



1. Shank—Stew
 2. Heel of round—Stew
 3. Full round—Steak
 4. Boneless rump—Roast
 5. Sirloin—Steak
 6. Porterhouse—Steak
 7. Flank—Steak and Stew
 8. Prime rib—7 rib
 - A. Prime rib roast—5 rib
 - B. Blade roast—2 rib
 9. Navel—Stew, Boiling
 10. Brisket—Boiling
 11. Fore shank—Stew
 12. Chuck round bone—Pot roast
 13. Chuck—Straight cut
 - A. Chuck blade—Roast
 - B. Chuck—Steak
 14. Neck—Stew
- Ground meat from lean trimmings

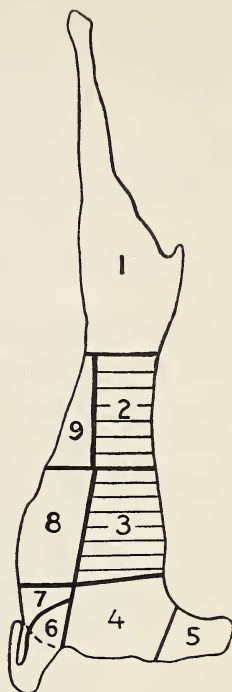
BEEF (NEW YORK METHOD)



1. Shank—Stew
 2. Heel of round—Stew
 3. Round—Steaks, Pot roast
 4. Boneless rump—Roast
 5. Top sirloin—Pot roast
 6. Sirloin—Steak
 7. Porterhouse—Steak
 8. Flank—Steak and Stew
 9. Navel—Stew, Boiling
 10. Thick plate—Stew
 11. Corner piece—Braise
 12. Prime rib—8 rib
 - A. Prime rib roast—6 rib
 - B. Blade roast—2 rib
 13. Chuck—Pot roast
 14. Top chuck—Pot roast
 15. Cross rib—Pot roast
 16. Brisket—Boiling
 17. Fore shank—Stew
 18. Neck—Stew
- Ground meat from lean trimmings

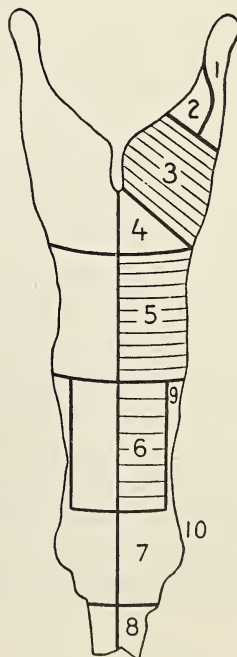
LAMB (STANDARD METHOD)

1. Leg—Roast
2. Loin—1 rib, Chops
3. Rack—8 rib, Chops
4. Sq. chuck—Roast
5. Neck—Stew
6. Shank—Stew
7. Brisket—Stew
8. Breast—Stew
9. Flank—Stew



VEAL (STANDARD METHOD)

1. Shank—Stew
2. Heel—Stew
3. Round—Cutlet
4. Rump—Roast
5. Loin—1 rib, Chops
6. Rack—8 rib, Chops
7. Chuck—Roast
8. Neck—Stew
9. Breast—Stew
10. Fore shank—Stew



*Courtesy Food Distribution Administration, U.S.
Dept. of Agriculture*

corresponds to U.S. Good; Grade B corresponds to U.S. Commercial; and Grade C corresponds to U.S. Utility. This wholesale grade has to appear in only one place on the wholesale cut. If your butcher does not sell meat graded by the Agricultural Marketing Service ask him to show you the wholesaler's grades on his cuts of meat.

KNOW YOUR CUTS OF MEAT

Good shoppers know that different cuts of meat are suitable for different purposes. Tender cuts may be broiled or roasted, and the tougher cuts may be braised, stewed, or pot roasted. Learn to know the cuts of meat generally found in your markets and how each cut is best used. Then you can select the right kind of cut for your own use. You should avoid buying an expensive cut of meat when a cheaper cut will answer the purpose just as well.

The diagrams on pages 96 and 97 show different ways of cutting meat. By studying these charts and the guides, you can see which are the low-cost, the medium-cost, and the high-cost cuts. The low-cost cuts—plate, shank, brisket, and neck—are suitable for soups and stews. These are the toughest cuts and should be cooked a long time with moisture in order to make them tender. The medium-cost cuts are chuck, rump, round, and flank and are suitable for stews, pot roasts, Swiss steaks, and braising. The high-cost cuts are rib and loin. These are the most tender cuts and can be broiled or oven roasted with success.

When you buy meat ask for the cut which is suitable for the purpose. If you want meat for stew, ask for neck, shank, or brisket, instead of "beef stew." If your budget will allow the medium-cost meat, ask for chuck or flank. There is generally more lean meat and less fat and bone in the medium-cost cuts than in the low-cost cuts. You should learn to recognize these different cuts so that you can select your meat without hesitation. You will find a variation in price within each price group. Porterhouse and T-bone steaks generally

cost more than sirloin. Round steak and rump generally cost more than chuck or flank. If you are buying beef to grind for hamburger, you should choose the least expensive cut providing it does not contain too much fat or bone.

Remember that the low-cost and medium-cost cuts are just as nourishing as the high-cost cuts. If the less expensive cuts are properly cooked, they are tender and tasty.

There is another factor to consider when comparing the costs of different cuts of meat. Some cuts contain much more bone and fat than other cuts. If there is a large amount of fat you will not use all of it. If there is a large amount of bone you will not use it, except for soup and perhaps for Fido. The price you pay per pound includes fat and bone. Therefore, the wise shopper will always consider the amount of lean meat which she gets for her money.

It is particularly important to know the difference between the tender and less tender cuts of beef. Most cuts of pork and lamb are tender and can be broiled or oven roasted. Most cuts of veal are also tender.

SOME HINTS ON BUYING MEAT

Here are some suggestions that will help you to get the most for your money when you buy meat.

1. Insist on meat that has been inspected for disease germs and sanitary handling. If it does not bear the "U.S. Insp'd & P'S'D" seal, ask whether it was inspected by state or city health departments.

2. Buy meat that is graded for quality when possible. Ask the butcher to show you quality-grade labels.

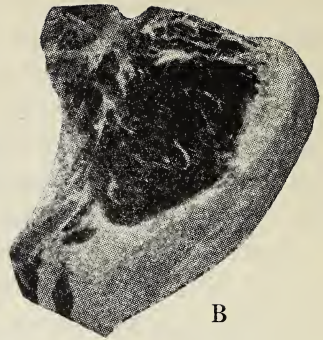
3. Select the cut that is best suited to your pocketbook. Remember that low-cost cuts are just as nutritious as high-cost cuts.

4. Select the cut that is best suited to the use. Inexpensive cuts are excellent for grinding and for long cooking with moisture.

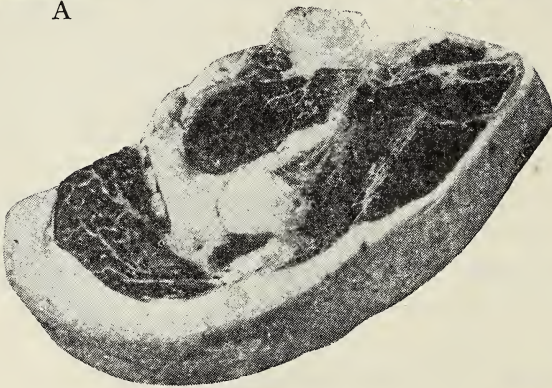
5. Learn the best way to prepare different cuts of meat.



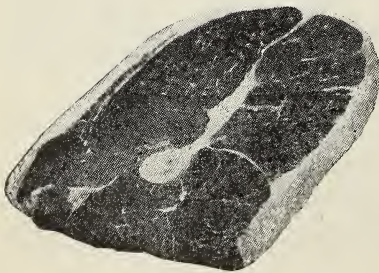
A



B



C



D



E

Courtesy National Live Stock and Meat Board

A, T-bone steak; B, club steak; C, porterhouse steak; D, round steak;
E, pin-bone sirloin steak.



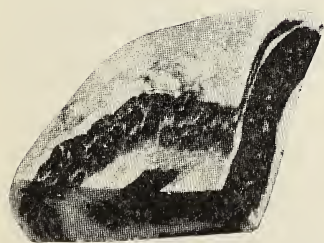
A



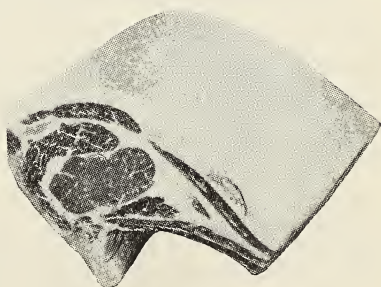
B



C



D



E

Courtesy National Live Stock and Meat Board

A, plate boiling beef; B, standing rump roast; C, flank steak; D, beef brisket; E, standing rib roast.

6. Always estimate the amount of lean meat in each cut. Some low-cost cuts are less than 50 per cent lean meat and some medium-cost cuts are more than 80 per cent lean meat. Consider the amount of lean meat per pound with respect to the price per pound.

7. Learn which meats are most plentiful in your local markets at different seasons. Prices will be lowest when the supply of meat is greatest. Pork is generally most plentiful in winter; and spring lamb is in the market from May to July.

8. Tell the butcher approximately how many pounds you wish to purchase. One-fourth pound of lean meat is considered an adequate serving for each person.

9. Buy roasts which are large enough to serve for two meals. Small roasts dry out in cooking and do not carve well.

WHEN YOU BUY POULTRY

The food values of poultry are similar to food values of meat. Poultry is a protein-rich food. It is a good source of phosphorus, and the dark meat is especially rich in iron. Lean poultry meat is also an excellent source of vitamins B₁ and B₂ (G).

More chickens are sold than any other type of poultry. When you buy a chicken you should know what kind of chicken is suitable for your purpose. The age of the chicken determines how it should be cooked. Here is a guide for your reference.

<i>Kind</i>	<i>Age</i>	<i>Weight</i>	<i>Characteristic</i>
Broiler	8-12 weeks	Up to 2 ½ lbs.	Very tender
Fryer	14-20 weeks	2 ½-3 ½ lbs.	Tender
Roaster	7-9 months	3 ½ lbs. up	Soft-meated
Fowl (hen)	1 year up	Any weight	Tough because of more con- nective tissue

The most economical kind of chicken to buy is the heaviest. The fowl yields more edible meat per pound than the lighter-weight chickens. Only about one half the weight of broilers is edible, and therefore it is expensive meat. Fryers and roasters have a little larger percentage of edible meat per pound, but the older and fattened birds contain the most meat per pound. However, the meat in the heavier chickens is less tender and requires moist-heat cooking for a long time.

The experienced shopper learns to know the characteristics of a good chicken. She looks for a chicken with a compact and well-rounded body and avoids the chicken with big bones and long, thin legs. It is especially important that the breast should be broad and "meaty," instead of narrow and thin. In young birds the rear hump of the breast bone is flexible and the skin is smooth.

The best way to be sure of securing good quality is to buy government-graded chickens. The federal government maintains a grading service for poultry similar to that for meat. The grades for young chickens are as follows:

U.S. Special or *Grade AA* is a young, fine-grained, soft-meated bird with broad breast. The skin is soft and smooth and free from bruises. The carcass is well covered with fat.

U.S. Prime or *Grade A* is a young, soft-meated bird with smooth skin but may show slight skin bruises. It is well covered with fat.

U.S. Choice or *Grade B* is a young, fairly well-fleshed bird. It may have a few scattered pin feathers and not more than three bruises. It may have a slight deformity such as a broken wing or leg providing the bone does not protrude through the flesh. It is fairly well covered with fat.

U.S. Commercial or *Grade C* is a young poorly-fleshed bird. It may have many pin feathers and many bruises. It is poorly covered with fat.

The grade labels which indicate the quality of the poultry generally are printed on the wrappers or cartons which contain the birds. Sometimes the grade label is printed on a tag which is attached to the bird.

FROZEN MEAT AND POULTRY

Meat and poultry must be kept at a low temperature in order to prevent serious spoilage. Every meat dealer has a meat cooler room and a refrigerated showcase. Meat packers chill meat and poultry immediately after it has been killed and dressed. Meat and poultry are always shipped in refrigerated cars which maintain a low temperature.

Four types of poultry are available in our retail markets. We should understand the handling for each type of poultry so that we can make more intelligent selections.

1. *Live poultry* which is sold to the consumer while still alive. This is possible only when the poultry farm is near the retail market.

2. *Fresh-dressed* poultry which has been cooled but not chilled or frozen. It should always be kept in refrigerated cases, such as those used for fresh meat.

3. *Fresh hard-chilled* or *fresh-chilled* poultry which has been frozen by the slow freezing method only hard enough to keep it in good condition until it reaches the retail market. Most of the poultry in the market is prepared by this process. There have been many cases in which this slow-frozen poultry has been thawed and sold to the consumer as fresh.

4. *Quick-frozen* poultry which has been frozen very quickly in a temperature 20 to 50 degrees below zero. When poultry is frozen more slowly at temperatures 30 to 20 degrees above zero, large ice crystals form in the tissues. These crystals cause rupture of the cell walls in the meat and when thawed permit loss of meat juices. In quick freezing these large crystals do not have time to form. Poultry which has been quick frozen and held for more than 60 days is called *cold-storage poultry*. It should be sold in a hard-frozen condition.

Some consumers are prejudiced against cold-storage poultry, but their prejudice is not well founded. Cold-storage poultry is often superior in flavor and tenderness to fresh-dressed or fresh-chilled poultry. It is selected when poultry

is finest in quality, and it may be held until the consumer wants to use it.

Poultry should be cooked immediately after thawing. It should never be thawed and refrozen.

The quick-freezing process is also used for meat. First, the meat is trimmed of extra bone and fat, and then quickly frozen. Only edible parts remain. Therefore the cost of quick-frozen meat is more per pound than for other meat. When comparing costs, remember that the fresh meat is not trimmed and is not completely edible. Like frozen poultry, meat should not be thawed until a few hours before you are ready to use it, and it should not be thawed and refrozen.

An important point for consumers to remember is that there is no change in food values or in quality caused by the quick-freezing process.

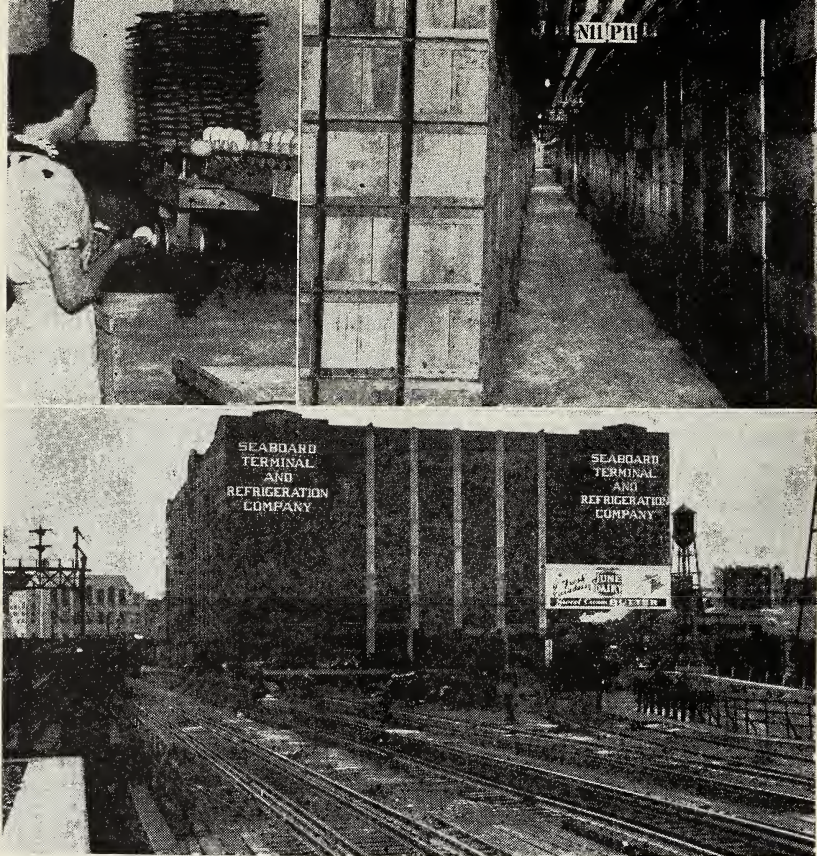
CANNED POULTRY AND MEAT

Millions of pounds of poultry and meat are canned in the United States every year. Most of the canning is done in government-inspected plants. Always read the label to see whether the product has been government-inspected.

Read the label also to see what ingredients are contained in the product. Food values are not affected by the canning process. The label will also tell you the weight of the contents. Remember that there will be no shrinkage of canned meat in cooking. Twelve ounces of canned meat is equal to 15 to 18 ounces of uncooked, boneless meat.

EGGS ARE VALUABLE IN THE DIET

With the exception of milk, eggs contain greater food value than any other food supplied to us by nature. They are rich in protein which is of very high quality. Egg yolks are rich in essential minerals, phosphorus, copper, and iron. Eggs also contain calcium, but not in such abundance as does milk. Fat is another valuable food element found in egg yolk.



Top left, courtesy United States Department of Agriculture and Swift and Company; top right, courtesy Food Distribution Administration; bottom, courtesy Farm Security Administration

Fresh eggs will retain their freshness for a long time if they are kept constantly at a low temperature. Eggs are candled here in a humified egg room (top left), stacked in a cold storage warehouse for proper circulation of air between cases (top right), and may remain for some time in the huge cold-storage terminal warehouse awaiting shipment (bottom).

Eggs can be classed as a protective food as well as a growth and an energy food. They are a good source of most of the vitamins, with the exception of vitamin C. The amount of vitamins present in an egg varies with the diet of the chickens and the season of the year. For example, summer eggs contain much more vitamin A than winter eggs. When hens

have plenty of sunshine or cod liver oil in their diet, their eggs contain more vitamin D.

QUALITY INSIDE THE EGGSHELL

It is only inside quality that counts with an egg. Brown eggs and white eggs may be equally nutritious and good in flavor. Some people believe white eggs are better in flavor, and others believe brown eggs are better. Actually, the color of the shell has nothing to do with flavor or food value.

If we had X-ray eyes we could judge the quality of an egg before the shell is broken. Unfortunately, the outside of an egg gives us no hint of what quality to expect when we break the shell. The best way of judging quality in an egg is by a process called candling in which the egg is examined through a strong light. The process is carried on in a darkened room. Each egg is inserted in an egg candler which permits strong rays of light to pass through the egg. The egg is turned so as to watch the behavior of the yolk. In the best-quality eggs, candling shows that there is a very small air cell; the yolk is well centered, barely visible, and does not move readily as the egg is turned; and that the white is firm and clear. In poor-quality eggs the air cell is much larger; the yolk is clearly visible and moves about freely; and the white is weak and watery. As eggs grow older the size of the air cell increases, and the white grows weak and watery, thus allowing the yolk to move about freely.

When the eggshell is broken, it is easy to judge freshness by the behavior of the egg as it falls into the pan. In a fresh egg the white is thick and does not spread much. The yolk stands up in a well-rounded shape. In an older egg the white spreads out because it is thin and watery, and the yolk flattens out.

Fresh flavor in eggs is tremendously important. The stale flavor which develops in old eggs is so objectionable that most people cannot eat them. Unfortunately, flavor cannot

be accurately tested without tasting, but it is generally safe to assume that fresh eggs will have a fresh and pleasing flavor. Certain hens may lay eggs that have a strong and displeasing flavor even when the eggs are fresh, but most fresh eggs are good in flavor.

WHAT IS A FRESH EGG?

A fresh egg is not always a newly laid egg. Freshness depends more upon the temperature at which the egg has been kept than upon the length of time since it was laid. Eggs that have been held in cold storage for a short time may be just as fresh and pleasing in flavor as newly laid eggs. When eggs are exposed to warm temperatures they deteriorate rapidly in quality. "Fresh eggs" that are peddled from door to door on a hot day may not be so fresh as eggs that have been held in cold storage for some time.

FROM COUNTRY HEN TO CITY TABLE

The journey of an egg from the poultry farm to your breakfast table may be long, but it is not likely to be nearly so complicated as the travels of a quart of milk, nor so speedy as that of fresh vegetables and fruit. The egg is supplied to us by nature, already wrapped in a nice, neat package. No special processing or great haste is required in order to bring it to our tables fresh and fine. Only one thing is necessary—a cool temperature.

On a modern poultry farm, eggs are gathered every three or four hours. The eggs are taken immediately to a cooling room which should be kept at a temperature between 40 and 55 degrees. Moisture in the cooling room is necessary to prevent shrinkage and drying out. Most poultry farmers sell to wholesalers or shippers who collect the eggs in trucks. A refrigerated truck is necessary to keep the eggs cool on the trip to the city. When they arrive at the storage house they are placed in refrigerated and humidified rooms where the

air is circulated to keep all parts of the rooms equally cool and moist. Most eggs are produced in the spring months, but consumers do not use the most eggs in the spring months. Therefore, proper storage is important.

Eggs may be held only a short time or for several months. When they are shipped to the retailer they should be kept under proper refrigeration all the way. The retailer also should keep them under refrigeration, and when you take them home from his market you should keep them in your refrigerator until you are ready to use them. Proper refrigeration and humidity every bit of the way from the hen's nest to your kitchen is important. An egg can grow stale more easily when exposed to 48 hours of hot weather than in several weeks when it is correctly handled and stored.

GOVERNMENT GRADED EGGS

The Agricultural Marketing Service has established four quality grades for eggs. Official government graders are employed in all the large markets of the country. Following are the official grades.

<i>U.S. Special</i> or <i>Retail Grade AA</i>	These are the most perfect eggs produced. Only a small proportion of eggs meet the requirements, and they are expensive.
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<i>U.S. Special</i> or <i>Retail Grade A</i>	These are excellent quality and very satisfactory for table use.
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<i>U.S. Standard</i> or <i>Retail Grade B</i>	These eggs are best suited for cooking purposes where they are blended with other flavors. They are less expensive than Grade A eggs and should be used for baking in order to save money.
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Courtesy United States Department of Agriculture

Eggs are inspected by federal graders and certified as to quality and grade to aid the consumer in judging whether he is getting his money's worth.

*U.S. Trade
or
Retail Grade B*

These eggs are the lowest edible quality. They are best used in cooking where egg flavor does not count much.

Eggs are also graded for size. Government-graded eggs are classified into three sizes, large, medium, and small. "Large" eggs must weigh 24 ounces to the dozen; "medium" eggs must weigh 20½ ounces per dozen; and "small" eggs must weigh 17 ounces per dozen.

The quality grade and size of government-graded eggs is indicated on a "Certificate of Quality" which is pasted on the carton containing the eggs. See the illustration at the top of the page.

SUGGESTIONS FOR DISCUSSIONS AND ACTIVITIES

1. Name three cuts of beef which have a large percentage of bone and fat. Name three cuts which have a small percentage of bone and fat. How do prices for these two type of cuts compare in your markets?

2. When you buy round steak to be used for Swiss steak, should you select U.S. Good at 41 cents a pound or U.S. Commercial at 30 cents a pound? Why?

3. When you buy expensive beef cuts, is it best to select from high-quality or low-quality graded beef? Why?

4. Arrange for a demonstration of egg candling.

5. If you wanted eggs for baked custard, what quality would you select? Why?

6. Is there state or city inspection of the locally dressed meats in your community? Ask an inspector to speak to your class about his work.

7. Does your state maintain a grading service for eggs? If so, secure a copy of the requirements for different qualities.

YOUR CONSUMER INVESTIGATIONS

1. Find out how much plate, chuck, and sirloin sell for in your local markets. If there is a variation in price among the different markets try to find out what grade meat is sold in each market.

2. Report interesting conversations with butchers with respect to graded meat.

3. Ask permission from a meat dealer to watch and listen for an hour while people select their meat. Choose a busy hour. How many ask for meat and name the cut? How many ask for a certain grade? How many ask for "stew" or "roast" or "boiling piece" instead of naming the cut? Do you think that consumers need to be educated about how to buy meat? Why?

4. What kinds of chickens are sold in your markets? How are they prepared for market? Are they graded?

5. How do prices for broilers, fryers, roasters, and stewers compare in your markets? Estimate how much you pay for lean meat in each case.

6. Can you buy graded eggs in your stores? Compare prices on the best and cheapest qualities in two stores. Try to find out how the eggs were handled in each case.

THE CEREALS—FACTS AND FIGURES

THE cereal foods include all the food products made from grains, such as wheat, oats, rye, corn, and rice. Bread, breakfast foods, and macaroni products are the principal cereal foods common to the American diet. These foods are high in fuel value, and most of us eat them in large quantity. Since they are offered to us in great variety we should learn how to select our cereals intelligently. Try your knowledge of the cereal foods in the test below. (*Do not write in the book.*)

CONSUMER QUIZ

1. What is the chief difference between bread flour and pastry flour?
 - The milling process
 - Gluten content
 - Season when wheat is grown
 - Age of the wheat
2. Wheat is often held for a long time in grain elevators before it is sent to a mill. Which factor is most likely to be responsible?
 - Time being allowed for wheat to ripen
 - Owner waiting for a better price
 - Lack of transportation
3. Bleaching the flour has an important effect on its food value. True or false?
4. Whole wheat flour and graham flour contain the part of the wheat kernel called the _____.

5. Which three food nutrients are added to "enriched" white flour?

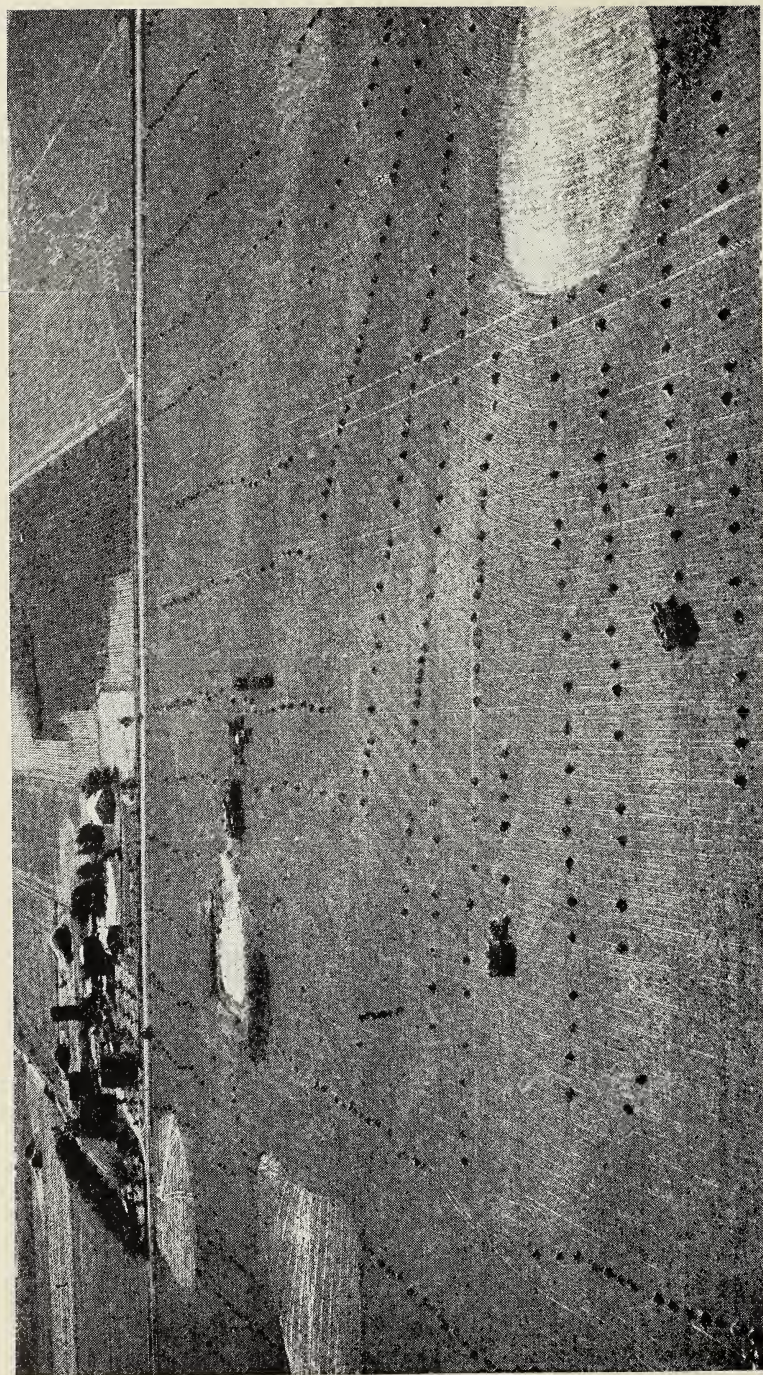
Vitamin A	Iron	Niacin	Thiamine
Vitamin C	Copper	Protein	Carbohydrates
6. Macaroni products are made from a kind of wheat called durum. True or false?
7. What factor most affects the food value of breakfast cereals?
 Part of grain used
 Freshness of product
 Airtight packaging
 Types, such as flakes, puffed, or uncooked
8. In what way does the FTC protect our pocketbooks when we buy breakfast foods?
 Prohibits exorbitant prices
 Enforces Wheeler-Lea Act
 Gives seal of approval to worthy products
9. The A.M.A. seal is the official emblem for what type of organization?
 Manufacturers' trade association
 Advertisers' association
 Doctors' professional association
 Consumers' protective association

YOUR LOAF OF BREAD—FROM FIELD TO TABLE

The story of wheat from farm to sandwich is different from the story of any other farm product that we have studied. It travels a different route and meets with strange adventures.

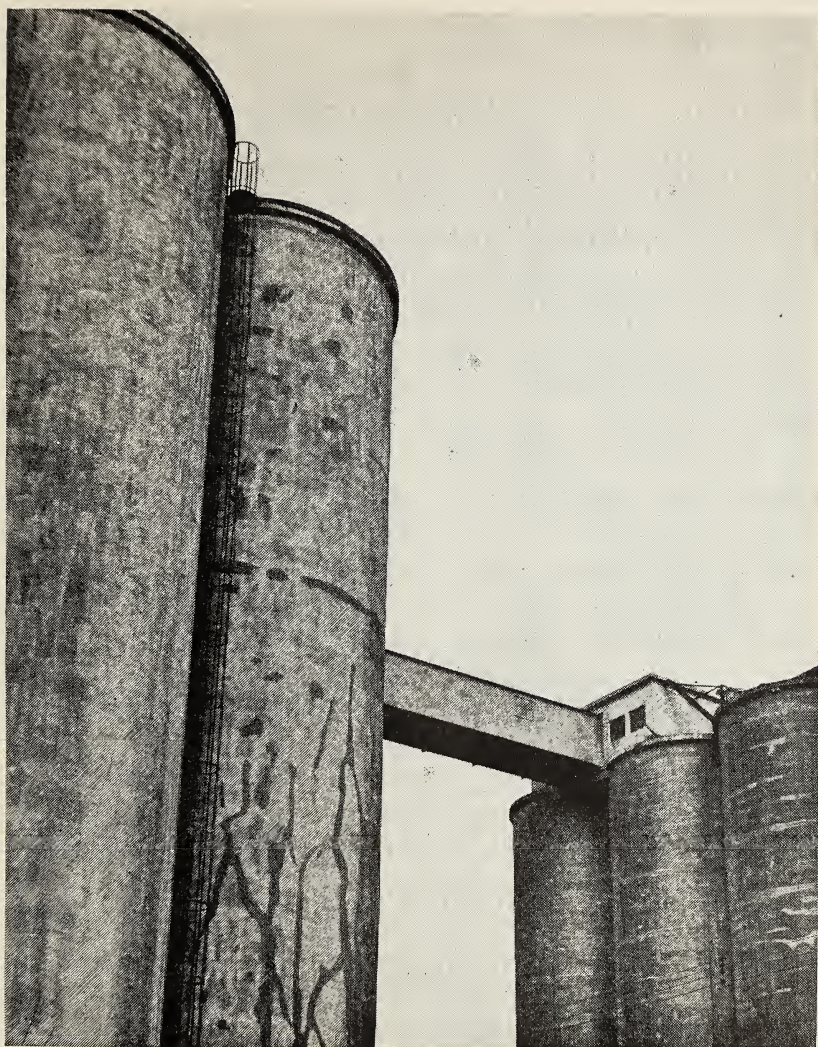
The immense wheat fields of the Middle West stretch from North Dakota to Texas and from Ohio to Kansas. Large amounts of wheat are also produced in Oregon, Washington, and Idaho. Wheat is the principal crop raised by more than half a million farmers. Kansas is the Number One wheat state.

There are several different varieties of wheat, and each type is suitable for a different purpose. Hard red spring wheat and hard red winter wheat are used for bread flours.



Courtesy General Mills, Inc.

A bird's-eye view of one of the great wheat fields of the Middle West.



Courtesy General Mills, Inc.

In wheat elevators, the grain is held until it is shipped to the mills. While the wheat is stored in these elevators it may change owners several times.

This type of wheat contains a high percentage of gluten which is important in bread making. Gluten in flour gives elasticity to the dough. Flour with a high gluten content is yellowish white and feels slightly gritty between the fingers. Soft red winter wheat and white wheat are used for pastry flours, which are best adapted for use in cakes and pies. Pastry flour contains less gluten and more starch than bread flours. Products baked from pastry flours are more tender and flaky than those baked from bread flour. Pastry flour is whiter than bread flour and feels smooth between the fingers. The chief difference between bread flours and pastry flours is in the gluten content. Hard or strong wheats used for bread flour contain a strong, tenacious kind of gluten which gives a strong elastic quality to the bread. Soft or weak wheats used for pastry flours contain a weaker gluten which gives a tender, fine texture to cake and other pastries.

A third type of flour made by blending bread flour and pastry flour is known as all-purpose or family flour. This type of flour is sold for general home use, and most home-baked bread is made from it. Good cakes can also be made from family flour, but cakes which are more tender and delicate in texture can be made from pastry flour.

The loaf of bread that you buy at the bakery starts its career in a field of hard wheat. Probably the wheat was harvested with a modern wheat combine. The combine moves up and down the fields, cutting off the heads of the grain, threshing and blowing off the chaff, and finally delivering the grain into wagons or trucks which wait alongside the combine.

Next the grain is hauled to country elevators where the farmer may sell it at once or where it may be held for him until he is ready to sell. Naturally he wishes to sell when wheat prices are high. If he does not need the money at once he may store the grain for a time.

From the elevator the grain probably will be sent to a grain center, such as Chicago, Minneapolis, or Kansas City. Some of it will be milled at once, but the rest of it will be

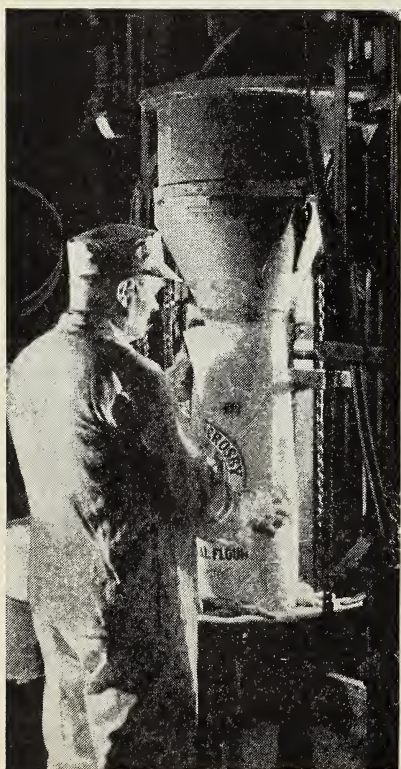
held in huge elevators for a long time. While it is stored in the elevators, the wheat may change owners several times. Eventually, it will be shipped to the mills.

The center of wheat trading is located in the Chicago Board of Trade. Here in the wheat pit thousands of bushels of wheat are bought and sold every day. Some people buy because they want grain for immediate use in the mills or for storage against future needs. Samples of the grain are displayed at one end of the room and buyers can select the grain which satisfies their needs. This kind of sale in the wheat market is called a cash grain sale. Other people buy wheat for delivery at some specified time in the future. Most of these buyers are speculators who hope to sell the grain for more than they paid. These traders do not have anything to do with actually making your loaf of bread, but they may have something to do with what it costs you. When a great many people are selling wheat and few people are buying, then prices go down. When few people are selling and many people are buying, then prices go up, because each buyer is forced to bid a little higher than his competitors in order to get some wheat. Buying and selling of this kind, unless it is controlled, may cause wheat prices to go very high. When you pay for a loaf of bread you may be paying part of the profits to several speculators who bought and sold the wheat from which it is made.

Milling is the next step in producing your loaf of bread. Wheat is stored in the milling company's bins ready for use. Different kinds of wheat are mixed to produce the type of flour which is desired. The wheat mixture is cleaned and tempered, which means that the inner wheat kernels are softened and the outer bran covering is toughened. The actual milling consists of passing the wheat grains between rollers which grind them into flour. The first rollers remove the outer coverings of the grain. Each set of rollers is set closer together than the preceding set. The flour is sifted out as the wheat passes on from each set of rollers. Before the flour leaves the mill it may be bleached. The process of bleach-



Courtesy General Mills, Inc.



At the mills, a wheat separator (top) removes the chaff, bits of straw, and weed seeds. Steel fingers move back and forth across wire-netted trays as suction draws off the impurities. Packing is the final step. The flour is dropped down a chute into sacks (bottom).

ing does not improve the flour in any way except appearance. Consumers like white flour and so the mills bleach the flour to please consumers. Bleached flour which enters interstate commerce must be labeled.

From the mills flour goes to the baking company where your loaf of bread is actually baked. Most bread is baked by wholesale baking companies and chain-store bakeries. The wholesale bakeries sell their bread to the retail stores from which you can buy it. The chain-store bakeries sell their bread in their own stores. Bread is also baked and sold by independent bakers who sell directly from their own retail stores or from trucks that make house-to-house deliveries.

When you consider the complicated process by which the loaf of bread finally arrives upon your dinner table, you may wonder that it does not cost more. The farmer, the owner of the elevators, the railroads, the wheat trader, the milling company, and the baker have all tried to make a profit from the wheat, other materials, and labor that went into the preparation of your bread. However, consumers feel that they should not be required to pay unnecessary costs or excessive profits. On the other hand they do not want producers, manufacturers, or distributors to receive less than a fair return for their services. The processes involved in the production of a loaf of bread are so complicated that the average consumer cannot tell whether he is paying too much or too little for his bread. However, consumers can learn a great deal about the prices they pay by studying the problems of production and distribution.

THE EVER-NORMAL GRANARY

The wheat program of the federal government, the Ever-Normal Granary, protects consumers from a shortage of wheat and from excessively high prices for wheat products. It also protects farmers against too low prices for their wheat and against losses through damages to their crops.

One purpose of the federal wheat program is to maintain

a good balance between production and consumption of wheat. This is the function of the Ever-Normal Granary. If there should be a year in which the wheat crop failed, there might not be enough wheat for consumers. Prices would be very high, and some consumers might go hungry. Through its Ever-Normal Granary the government keeps enough wheat on hand in the bins of the nation so that there can be no shortage. Now take the opposite situation. There may be years when crops are very good and too many acres are planted in wheat. Then we would have more wheat than could be used. Prices would be low, and farmers would receive very little money for their crops. Through the Ever-Normal Granary, the amount of wheat planted is limited to the needs for the coming year. Thus, the supply cannot greatly exceed the demand. Remember that prices for all consumer commodities move up and down according to supply and demand. When the supply is greater than the demand, prices will go down. When the demand is greater than the supply, then prices will go up. The purpose of the Ever-Normal Granary is to keep the supply of wheat well balanced against the demand for it.

The Ever-Normal Granary is maintained by several methods of controlling the wheat supply. First, the Secretary of Agriculture estimates how much wheat will be needed for the coming year. Records have been kept for many years which will tell him how much wheat was produced and how much was used. He knows how much surplus wheat is on hand and how much will be required. To these amounts he adds an extra amount for safety in case of crop failures. The quota for the whole nation is apportioned among the states. Each state apportions its quota among the counties. In each county a committee of farmers decides on the quota for each farmer. No farmer needs to co-operate in this scheme unless he wishes, but unless he does, he cannot insure his crops against failure under the government plan.

A second method of maintaining the Ever-Normal Granary is through marketing quotas. The same land does not al-

ways yield the same amount of wheat. If a farmer's land yields more than his quota, he is not allowed to sell his extra wheat on the market without paying a penalty. However, he may store his wheat and receive loans on it from the Commodity Credit Corporation. The wheat is taken off the market and thus helps to prevent lower prices. The wheat is stored for future use. It may be stored in a commercial warehouse, or it may be stored in the farmer's own bins. In either case it is held in a sealed bin.

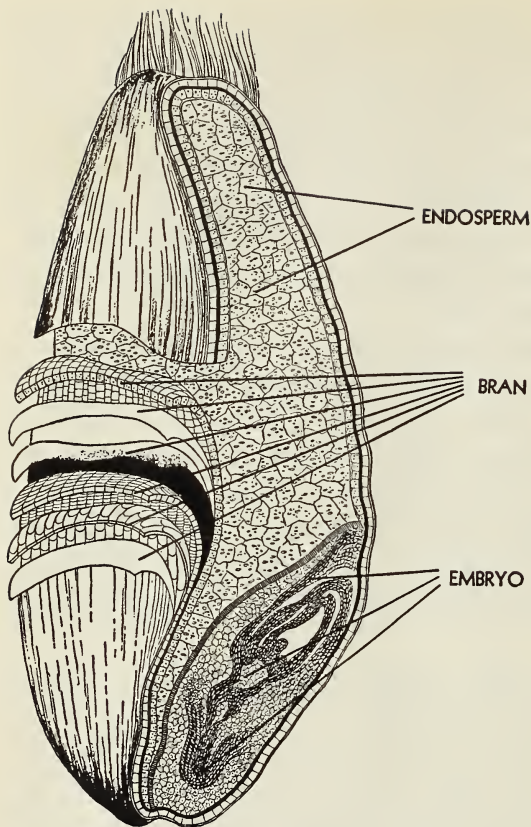
A third way of maintaining a normal supply of wheat at normal prices is through loans to farmers on their wheat. When the wheat is ready for market, prices may be low because of the abundant supply. Many farmers may be forced to sell their wheat at once because they need the money for their families. The Commodity Credit Corporation will loan the farmer money on his wheat, and the wheat will be stored until prices are higher and the farmer can sell it to advantage.

A fourth way in which a normal wheat supply is maintained is through crop insurance. Wind, hail, drouth, or grasshoppers may wreck a farmer's wheat crop. He can insure 75 per cent of his crop against damage with the Federal Crop Insurance Corporation, paying his premiums either in wheat or in cash. If he pays in cash the corporation buys wheat and stores it in the bins of the Ever-Normal Granary. If a farmer loses his crop, he may be paid either in wheat or in cash.

There has never been a bread shortage in the United States and as long as the Ever-Normal Granary is maintained, there can be none. It protects the nation's daily bread.

WHAT'S IN YOUR BREAD?

The chief ingredient of bread is flour, so the quality and food value of your bread depends largely upon the flour in it. Most of the bread eaten in the United States is white bread made from wheat flour. Other breads made from



This is the starchy center of the wheat berry. It is a good source of energy, but does not make a "complete cereal" in itself.

These are the bran layers of the wheat berry. They supply iron, phosphorus, and proteins. Bran acts as a natural regulator.

This is the part of the wheat that sprouts when planted. It is one of the richest known natural sources of vitamin B₁.

Courtesy Ralston Purina Company

wheat flour are graham, whole wheat, and entire wheat. Different wheat flours are obtained by using different parts of the wheat grain. The cross section in the illustration above shows you the structure of a wheat grain. The outer covering is a husk which covers the grain. Inside the husk are several layers of bran which surround the endosperm. The germ is located in one end of the endosperm. The milling process consists of a series of grindings between rollers, and a series of siftings through screens and silk bolting cloth. Several different streams of flour are secured from the same grain. The first sifting comes from the softer part of the endosperm which is easily crushed. This soft, starchy part of the

endosperm lacks vitamin and mineral content, so unless vitamins and minerals are added white flour lacks these food elements.

The harder part of the endosperm is known as middlings. It is a granular, yellowish flour which is left after the finer flour has been sifted out. It is high in gluten content and therefore important in bread flour. Some of it is added to bread flour.

Whole wheat flour, entire wheat flour, and graham flour are all names for flour made from the whole wheat grain, including the bran. According to the definition established by the Food and Drug Administration these flours contain in their natural proportions all the elements found in cleaned wheat grains. The germ (or embryo) and the bran coverings of the wheat grain contain vitamin B and iron. White flour made only from the soft, starchy part of the endosperm does not contain either iron or the B vitamins. Consequently, white bread lacks these important food nutrients. Of course, people could easily get iron and B vitamins in their bread by using only whole wheat bread. Unfortunately, Americans greatly prefer white bread. To remedy this situation, scientists have found a way of adding iron and vitamin B to white bread.

WHAT IS "ENRICHED" BREAD?

"Enriched" bread is made from white or near-white flour to which iron, thiamine (B_1), and niacin have been added. The flour may be enriched by special milling processes in which the specified amounts of vitamins and minerals are retained. This kind of flour is slightly darker than ordinary white flour. Flour may also be enriched by adding the required amounts of vitamin and minerals to it. Or it may be made by combining these methods, retaining some of the minerals and vitamins by special milling and adding some of them. The synthetic or laboratory-made vitamins are just as good as those which are provided by nature. "Enriched

bread" may also be made from plain white flour and special yeast preparations which supply the vitamins and minerals.

During the Second World War the health of the nation was considered of vital importance. As you already know, vitamins and minerals are essential in the diet. To make sure that people received more of these vitamins and minerals, the Food Administrator issued an order requiring all white bread to be enriched.¹

THE MACARONI FAMILY

Macaroni and all its relatives—spaghetti, vermicelli, noodles, and others—are made from a very hard wheat known as durum. The gluten content of durum wheat is much higher than that of wheat used in bread flour, and it gives great tenacity and strength to the coarse flour from which macaroni is made. All macaroni products are made from the same dough or paste. This dough is forced through small holes or slots forming rods or tubes. Then the soft tubes or rods are dried, and the product is ready for packing.

Macaroni is made in hollow tubes about one-fourth inch in diameter. Spaghetti is a solid rod much smaller in diameter than macaroni. Vermicelli is also a solid rod but much smaller than spaghetti. Macaroni products are made in dozens of other forms, such as elbows, alphabets, stars, cockleshells, daisies. Noodles must have some egg content unless they are labeled "plain noodles" or "water noodles." The Food and Drug Administration says that noodles must contain 5½ per cent eggs by weight unless they are otherwise labeled. Here is one more case in which we should read the label before purchasing a product. Most noodles are made in the flat ribbon form.

All macaroni products are considered more desirable if they have a slightly yellowish color. Noodles, of course, should be considerably more yellow because of the egg content. Some kinds of the durum wheat are naturally more yel-

¹ FDO 1, Amendment 3. Part 1404—Bakery Products. March 6, 1943.

low and so are especially desirable for macaroni products. The standards of the Food and Drug Administration do not allow manufacturers to use artificial coloring matter to give a yellow tone to white or grayish-colored macaroni. The use of yellow cellophane for wrapping macaroni products is also forbidden.

Good macaroni keeps its shape when boiled, and it swells to about twice its original size. It is tender but firm, and not pasty or sticky. Poor macaroni has a "floury" or "musty" taste. Unfortunately, there is no way to tell whether your macaroni is of good quality until you cook it. You cannot determine the quality by examining the dry macaroni product.

WHAT'S IN YOUR BREAKFAST CEREAL?

There are dozens of varieties of breakfast cereals on the market. They are made chiefly from wheat, corn, rice, and oats. Breakfast cereals made from the same grain may vary considerably in form and in content. They may be ready-to-eat, semicooked, or raw. You are undoubtedly familiar with the various forms of ready-to-eat cereals—flaked, puffed, and shredded. The semicooked cereals have been preheated and cut into finer flakes so that the cooking time can be reduced. These semicooked cereals are generally known as "quick" cereals.

The difference in external appearance between a puffed cereal and a flaked cereal is readily seen. Unfortunately, we cannot see a much more important difference. We cannot tell whether a cereal has been made entirely from endosperm or whether it includes the bran and germ. This means the difference between a cereal that is mostly starch and protein, and a cereal that contains, in addition, minerals and vitamins. Everyone who understands the protective value of the minerals and vitamins in our foods will prefer the cereal made from the whole grain. Some ready-to-eat cereals, like flour and bread, are enriched by the addition of vitamins and

minerals. Some cereal foods are irradiated, thus providing vitamin D.

More than one kind of grain is used in making some of the prepared cereals. Other ingredients, such as sugar, sirup, malt, and salt, are sometimes added.

Read the labels on your packages of breakfast foods to find out what grains and what other ingredients have been used in their manufacture. Read the labels especially to find out what minerals and vitamins are contained in the food.

WHAT'S IN YOUR CEREAL ADVERTISEMENT?

We have learned much about what is in our food. Now let us inquire about what is in the *advertising about our food*. No food product is advertised more extensively than breakfast cereals. Billboards, magazine pages, and radio programs remind us constantly of this or that kind of breakfast food. Each advertisement makes us feel that one particular kind of breakfast cereal tastes the best and gives the most. Many a young American has been led to believe that he cannot become strong, healthy, and patriotic unless he eats a special kind of breakfast food. Advertisements can be very persuasive. Sometimes we are influenced by them without realizing it.

Breakfast-cereal advertisers seem to specialize in radio programs. These programs generally consist of dramatized stories which continue for weeks, months, and even years. There are adventure stories, romances, comedies, and tragedies. These continued stories on the radio have been called the "cereal serials." At the beginning and end of every dramatization and sometimes in the middle, there is a "plug" for a certain kind of breakfast food. If you are pleased with the story you are likely to think well of the breakfast food that is advertised. The "plug" may tell you that the cereal is delicious, nourishing, popular, or streamlined. It may tell you that the cereal is baked in an oven or shot from a gun. It may tell you about the energy in "Super-Duper Pops" or

the vitamins in "Ruffled Puffs," or the minerals in "Ricey Diceys." It may imply that you cannot be strong and athletic unless you eat "Corny Kops," and so on.

Some advertisements appeal to your desire to be popular, healthy, and successful. Some try to frighten you because you may not be any of these desirable things. Others make an appeal to your desire for something good to eat. Still others tell you what's in the product and how much you are getting for your money.

WHEN IS ADVERTISING HELPFUL?

Advertising helps the merchant sell his goods. It helps the breakfast-food manufacturer sell more breakfast food than he would if he did not tell the public about his product. Obviously, advertising is helpful to the merchant when it helps him to sell more goods.

When is advertising helpful to the consumer? It may be helpful to him in two ways. First, it informs him about new products with which he is not acquainted and tells him where he can get them. For example, if a consumer lives in Kansas he might never learn about a particular kind of breakfast food made in Connecticut if it were not advertised. If this breakfast food is one that he wants and needs, then the advertisement has been of service to him.

Second, an advertisement can give the consumer definite information about a product. For example, it can tell the consumer what kind of grain was used in a breakfast food, whether the food contains the bran or germ of the grain or whether it has been enriched. It can tell him how much the food costs per pound or per ounce. In short, it can tell him just what he is getting for his money.

ADVERTISING—TRUE OR FALSE?

In their desire to sell their goods, advertisers sometimes make statements that are not true. In 1938 Congress passed an act making it unlawful for anyone to make false or mis-

leading statements in an advertisement. This act is known as the Wheeler-Lea Act and is administered by the Federal Trade Commission. Suppose that a manufacturer of breakfast food should claim (in an advertisement) that his product contained thiamine and riboflavin when it really does not. A competitor or consumer can complain to the Federal Trade Commission about this false advertisement, and the Commission can take action against the offender. Suppose that a manufacturer of a certain breakfast food makes a *misleading statement* in his advertisement. He may imply that his breakfast food has more energy in it than any other breakfast food, although he does not say so directly. This is a misleading statement and the Federal Trade Commission can take legal action.

Before 1938 food manufacturers made many false and misleading statements in their advertising because there was no law to prevent them from doing so. Since the Wheeler-Lea Act went into effect, there has been much less of this type of advertising. However, it has not entirely disappeared, and every consumer will do well to consider the exact truthfulness of each advertisement. Does it make claims which are improbable? The more you learn about food values, the better you will be able to judge the truthfulness of advertising claims. In the suggestions for activities at the end of this chapter you will find directions for practice in judging the value of an advertisement.

THE SEAL OF THE AMERICAN MEDICAL ASSOCIATION

Some advertisements for foods carry the seal of the Council of Foods of the American Medical Association, a professional organization. This seal means that the food product has been accepted by the Council of Foods, American Medical Association. This acceptance does not mean that the Council recommends the product, but that the product has been examined and found acceptable according to the standards of the Association.

You will find the A.M.A. seal on many different kinds of food products. Candy bars, oleomargarine, breakfast foods, canned fruits, and other foods have been granted the right to use the seal in their advertising and on their labels.



Courtesy American Medical Association, Council on Foods and Nutrition

SUGGESTIONS FOR DISCUSSIONS AND ACTIVITIES

1. List the names of the breakfast cereals which members of the class eat regularly. Which ones are most popular?

2. List the reasons why each of the cereals is preferred. Classify the reasons given according to the following: taste and palatability; economy; nutrition; advertising; other reasons.

3. How many members of the class prefer white bread? Whole wheat bread? Which kind of bread do you conclude is most popular in your community?

4. Arrange an excursion to a bakery, a flour mill, or a macaroni factory.

5. Arrange an exhibit of bread wrappers. Make labels explaining the informative facts given on each wrapper.

6. Arrange an exhibit of breakfast-food boxes. These boxes can be cut at the corners and flattened. Make labels pointing out the informative facts given on each label.

Watch for this seal on your food products.

YOUR CONSUMER INVESTIGATIONS

1. Investigate the regulations controlling the sale of bread in your community.

a. Delegate a member of your group to write to your state Department of Health for the laws governing the manufacture and sale of bread.

b. Is there any way you can compare the weight of loaves in your stores? Are the weights printed on the wrappers?

c. How do prices for different brands compare? Are the loaves the same size?

d. How do prices for white bread and whole wheat compare?

2. Compare prices for the breakfast cereals sold in your stores. Make a table like the one below and record your findings. Be sure

to include ready-to-eat, semicooked, and raw cereals. (*Do not write in the book.*)

<i>Name of Cereal</i>	<i>Weight of Package</i>	<i>Price</i>	<i>Cost per Ounce</i>	<i>Cost per Pound</i>	<i>Enriched</i>

For Health...eat some food from each group...every day!



**IN ADDITION TO THE BASIC 7...
EAT ANY OTHER FOODS YOU WANT**

Courtesy Office of War Information, Bureau of Human Nutrition and Home Economics

This chart gives us a simple plan for choosing our daily food. It was created during wartime when the nation faced many serious food problems. It shows us how to select the right kind of food for health and vitality. Remember that the selection of a balanced diet is important to you not only in wartime but in all times.

~6~

WHAT YOU SHOULD KNOW ABOUT SHOES AND STOCKINGS

DO YOU get your money's worth when you buy shoes and stockings? What are your guides when you select a pair of shoes? Are you concerned principally with style or with comfort? With color or durability? How do you judge a pair of hose? Do you know what to ask about gauge, weight, construction, and size? Or do you depend on the price and brand names?

Durability and comfort are more important in shoes and stockings than in any other articles of clothing. Style and appearance are also important qualities, but these are easily seen. Some of the qualities which give comfort and durability are partially or completely hidden. We should learn how to look for these hidden qualities. To find out what you know about shoes and stockings, try the test below. (*Do not write in the book.*)

CONSUMER QUIZ

1. Size 10 stockings should measure how many inches from heel to toe? 9 inches_____ 10 inches_____ 11 inches_____
2. You should wear a stocking that measures _____ inches longer than your foot.
3. The terms on the next page refer either to full-fashioned or seamless hose. Which refer to full-fashioned and which to seamless hose?

Knit flat
Mock fashion
marks

Circular knit
True fashion
marks

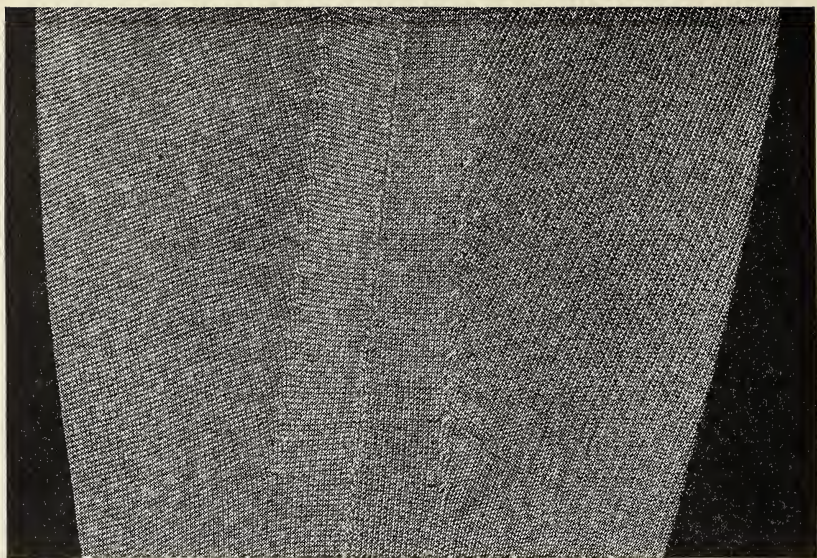
Dropped stitches
Mock seam

4. A 50-denier rayon stocking is lightweight and sheer. True or false?
5. If you desired to buy hose that were elastic and fine in texture, what gauge would you ask for?
45 gauge 48 gauge 51 gauge
6. If you have a 4B foot, all 4B shoes should fit your foot. True or false?
7. Give five points which should be checked on the fit of a shoe.
8. Which is more important to durability in a shoe, type of construction or good materials and workmanship?
9. Top-grain leather is more desirable than split leather because it is more durable and more beautiful. True or false?
10. For health and comfort the heel on your shoe should not be more than — inches high.

TYPES OF HOSIERY CONSTRUCTION

Men, women, and children all wear knitted hosiery. Before the days of machinery, all stockings were knitted by hand, but now most hose are made on knitting machines. Types of construction vary, and it is important that we understand how they differ. Price, durability, comfort, fit, and appearance depend partly upon the type of construction.

Full-fashioned hose are knitted flat and then sewed in a seam that extends from the toe along the bottom of the foot and up the back of the leg. This construction is used mostly for women's full-length stockings. Full-fashioned, full-length stockings are widest at the top. Just below the hem, stitches are dropped in order to narrow the stocking. When stitches are dropped, small raised dots or fashion marks are formed. (See the illustration on page 134.) More stitches are dropped at the calf of the leg. Notice that the rows of stitches between the fashion marks and the seam are parallel with the



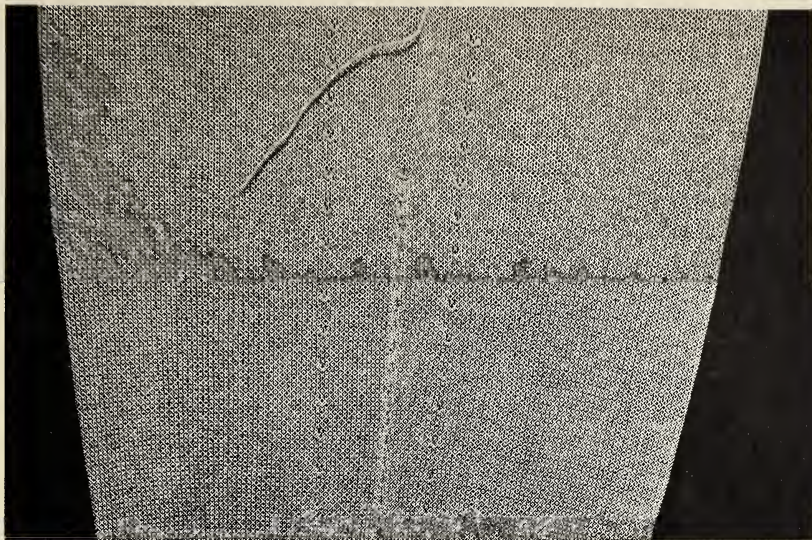
Courtesy U.S. Bureau of Human Nutrition and Home Economics

Full-fashioned hose show genuine fashion marks—where stitches have been dropped—and a true seam.

seam, but the rows of stitches toward the front run diagonally to the row of fashion marks.

There is no standard as to the number of stitches that should be dropped. If too many stitches are dropped, the elasticity of the stocking is decreased too much. This puts a severe strain on the threads causing them to break easily. Fashion marks which are very close together generally indicate a lack of elasticity because too many stitches have been dropped. Dropping stitches saves yarn, and some manufacturers skimp on the yarn in order to reduce cost. After comparing a full-fashioned stocking of good quality with one that has been skimped, you will be able to judge elasticity.

Seamless or circular-knit hose are knit in tubular form with the same number of stitches from top to bottom. In this type of construction there are no seams, no fashion marks, and no slanted or diagonal rows of stitches. Sometimes mock fashion marks are added, but these can be detected because



Courtesy U.S. Bureau of Human Nutrition and Home Economics

Circular knit hose have a mock seam and fashion marks added to give an appearance of full-fashioned hose.

there are no diagonal stitches which run into them. About 90 per cent of men's hose and most children's socks and anklets are circular knit. Some people find circular knit hose more comfortable than full-fashioned hose because there is no seam under the foot.

Some seamless hose are shaped by making tight stitches in the lower part of the leg and loose stitches in the upper part. The difference in the size of the stitches can be seen when the two parts are held next to each other. Other seamless hose are shaped by boarding on heated drying frames, but these hose do not hold their shape after washing. They are generally too loose at the ankle and too tight at the top.

Fashioned seamless hose are knitted from the toe toward the top of the stocking. There is no seam in the foot, and no true seam in the leg, but a mock seam is often added in the leg for the sake of appearance. The leg is shaped by adding stitches as the knitting progresses from the bottom toward the top. The added stitches form a V at the back of

the leg. When the mock seam is added, it runs through the center of the V. Mock fashion marks may also be added. See the illustration on page 135.

Cut and tailored hose are made by cutting either flat or tubular knitted fabrics and sewing a seam up the back of the leg. You should be able to detect this type of construction by the kind of seam required to hold the raw edges together and by the way the rows of stitches meet in the seam. This method of construction is not commonly used so perhaps you will not find it in your stores. Lace or mesh hosiery is occasionally made in this way.

FIBERS USED FOR HOSIERY

Silk, wool, cotton, and the manmade fibers—rayon and nylon—are all used for hosiery. The manufacture of silk hose was stopped during the Second World War because silk could not be obtained from the Far East. The manufacture of nylon hose was also stopped because nylon was needed for war purposes. Since silk and nylon hose are not available at the present time, they will not be discussed in this chapter.

Rayon is a synthetic fiber made by treating wood pulp or cotton linters with chemicals until it becomes a pulpy mass. This pulpy mass is then forced through tiny tubes, thus producing tiny filaments which harden into rayon fibers. These fibers may be made as long as desired. Different types of rayon are made by different processes and may be called by various names, such as bemberg rayon, acetate rayon, and celanese rayon.

Rayon is a smooth, silky fiber, less expensive than silk. Its chief disadvantages are low elasticity and low breaking strength. It is especially weak when wet. Some rayons are also very shiny and disagreeable in texture.

Improved methods of handling rayon yarns have overcome some of the objections to rayon hose. Highly twisted yarns produce greater strength, greater elasticity, and a duller and more pleasing effect than regular rayon yarn.

Twist is a very important element in rayon hose of good quality. Crepe rayon means that the yarn has a very high twist.

When you buy rayon hose always ask about the twist in the yarns. You probably will not be able to find out what it is because the salesgirls do not know. Frequently the buyer does not know, and the manufacturer seldom puts it on the labels. However, information of this type will become available to consumers when consumers keep asking for it.

Rayon is used extensively for men's socks. It is especially suitable for patterned effects. Two kinds of rayon combined in the same sock can be dyed two different colors because one kind of rayon will dye one color and the other kind of rayon will dye another color from the same dye bath.

Cotton is used for men's, women's, and children's hosiery. The cotton fiber is a wavy, slightly twisted fiber varying in length from $\frac{1}{2}$ inch to $2\frac{1}{2}$ inches. The length of the fiber greatly affects the appearance of the fabric. Short fibers leave a more fuzzy surface because of the numerous tiny ends. Longer fibers produce a stronger yarn and smoother-surfaced fabric. Long cotton fibers are sometimes combed in the process of making the yarn. This means that the fibers are straightened out and the short fibers are removed before the yarn is twisted. This produces a smoother, stronger, and finer yarn. Cotton hosiery made from combed cotton is generally labeled.

Twist is just as important in cotton yarns as in rayon yarns. High twist gives strength, smoothness, and sheerness. Stockings made from loosely twisted, short-fiber cotton are fuzzy, uneven, and clumsy in appearance.

Cotton-lisle hose are made from tightly twisted yarn of long fiber cotton which has been singed to remove the fuzz. The yarn or fabric is passed quickly over a gas flame which burns off the fuzz leaving a smooth, lustrous surface. Good lisle stockings are fine and smooth.

Mercerized cotton is smooth and lustrous. When mercerized, the cotton yarn or fabric is put through a bath of strong

caustic alkali while the yarn or fabric is held tightly stretched. This changes the appearance of the cotton from a dull effect to a smooth and lustrous effect. The process strengthens the cotton fibers and enables them to take dye readily. Cotton lisle may also be mercerized. Either mercerized or lisle hose are superior to the regular cotton stockings.

At the time of the First World War more stockings were made from cotton than from any other fiber. About 70 per cent of women's stockings were cotton. By the time the Second World War began most women's stockings were made from silk. Due to a lack of silk in this country, cotton again became popular for women's hose.

Wool hosiery is made for men, women, and children and is worn for active sports and for warmth in cold weather. Everyone knows that wool clothing is warmer than clothing made from other fibers, but not everyone knows why it is warmer. To understand why woolen clothing is warm, you must understand the structure of the wool fiber. If you untwist a woolen yarn, you will find that the fibers are curly and crinkly. When these fibers are twisted together into a yarn, there are innumerable tiny air spaces between the curly fibers. Fabrics made from these woolen yarns contain millions of these tiny air spaces. Air is a poor conductor of heat, and the heat from the body is caught in the tiny air spaces and held. Thus, the body retains its warmth, and we say that woolen clothing is warm. Actually it is the body which is warm, and the woolen clothing helps to retain the body heat.

If you examine a woolen fiber under the microscope, you will see that it is made of tiny overlapping scales. Between these scales are more air spaces which also help to retain body heat.

Qualities of wool fiber used in hosiery range from very good to very poor. You can judge the quality to some extent by the "feel" of a woolen sock. Good quality feels soft, fine, and resilient or "springy." Poor-quality wool is coarse and harsh.

Worsted yarn is made from long wool fibers which have been combed so they are more or less parallel before the yarn is twisted. These worsted yarns can be twisted more tightly and firmly than woolen yarns made from short, crisscrossed fibers. Socks made from worsted yarns are smooth and fine-textured; socks made from woolen yarns are fluffier because thousands of tiny fiber-ends form a nap on the surface of the fabric. Woolen yarns are less expensive to manufacture than worsted yarns and, therefore, woolen socks are generally cheaper than worsted socks.

Combinations of different fibers in the same pair of socks are very common. Rayon hose frequently are made with cotton reinforcements in the feet and welt (top hem). This combination is advantageous because the rayon fiber when it becomes moist from perspiration is greatly weakened, resulting in holes and "runs." Wool is often combined with cotton and with rayon. Combinations of wool with other fibers is sometimes desirable for various reasons. Part cotton gives added strength though less warmth. All wool is irritating to some skins, and part silk, cotton, or rayon may prove more comfortable.

HOSIERY LABELS MUST STATE FIBER CONTENT

Consumers are protected as to the fiber content in hosiery. Every pair of hose must be labeled so as to tell from what the hose are made.

The Federal Trade Commission has issued a set of rules which require truthful labeling of the fiber content in each pair of hose.¹ One stocking of each pair must carry a stamped label, rider ticket, or tag stating clearly the fiber content of the hose; and this label must remain on the stocking until the pair is sold to the consumer. Because of this Federal Trade Commission (FTC) rule you will find hosiery in your stores labeled "cotton," "cotton lisle," "rayon," "rayon and cotton," or with other such information. Hose labeled "cotton

¹ Trade Practice Rules for the Hosiery Industry. As Promulgated May 15, 1941. Federal Trade Commission.

lisle" must be made of long-staple cotton with a specified number of twists to the inch. Long-staple cotton means cotton not less than 1 1/8 inch long. When a combination of fibers is used, the fiber which predominates must be named first. For example, socks which are labeled "cotton and silk" will contain more cotton than silk.

The Federal Trade Commission is a government agency which was set up to eliminate unfair trade practices among competitors and to encourage better trade practices. Although the primary purpose of the FTC was to regulate trade practices among competitors in industry, the consumer is helped at the same time. Trade-practice rules have been established for several other industries besides the hosiery industry, and in each case consumers have been aided in getting better value for their money. The next time you buy a pair of socks remember that the label telling you the fiber content is the result of the FTC trade-practice rules. Perhaps this will help you to get better value for your money. Naturally you do not wish to pay for all-wool socks when you really are getting cotton-and-wool socks.

CHOOSE THE RIGHT WEIGHT HOSIERY

Women's hosiery varies from very heavy weight to very thin and sheer weights. Men's and children's socks also vary in weight. Weight is an important factor in durability and comfort. You cannot expect a very delicate sheer stocking to wear as long or to keep you as warm as a heavier pair. Choose the right weight for your needs.

Weight in rayon hosiery is expressed by denier, which indicates the size of the thread or yarn used. Denier is expressed in numbers such as 50, 75, 100, and 150. The higher the denier, the heavier the yarn. A 150-denier rayon stocking is a heavyweight stocking. A 50-denier rayon stocking is chiffon weight and is not satisfactory because rayon yarns are weak and will not stand the strain of even moderate wear. A 75-denier rayon stocking is probably the lightest weight that will give satisfactory service.

Weight in cotton hose is indicated by *ply*. A two-ply yarn means that two strands of cotton were twisted together to make the yarn. Hosiery is made from single-ply to four-ply yarn, but two-ply is most used for men's and women's hosiery. Boy's socks and sport socks are often made from three and four-ply cotton.

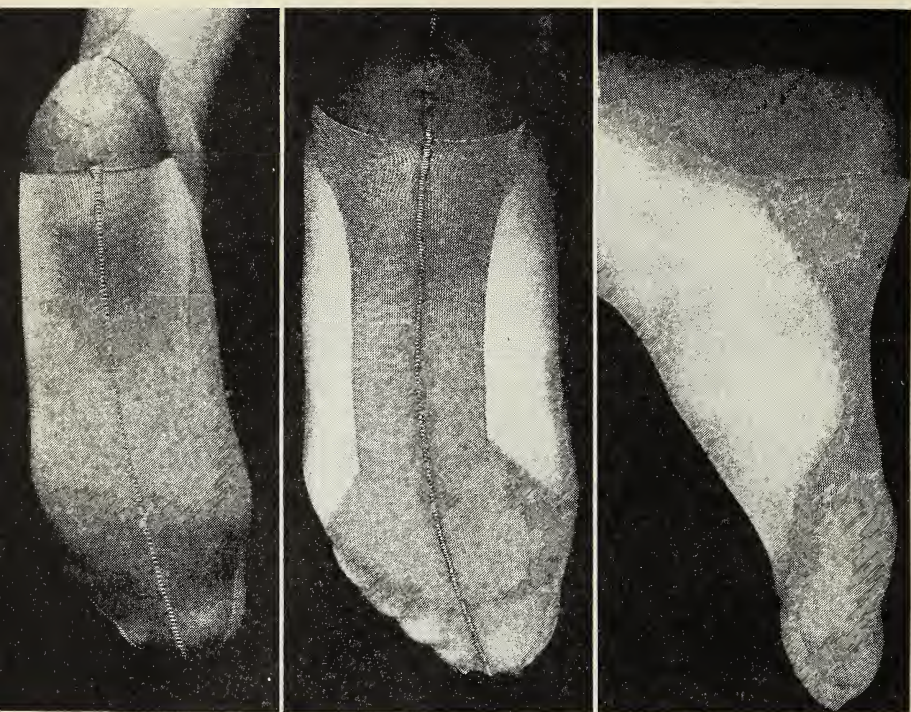
GAUGE IS IMPORTANT

Gauge is very important in determining the elasticity or stretch in a stocking. The number of needles used in 1½ inches in knitting a full-fashioned stocking determines the gauge. Most stockings are made with 39, 42, 45, 48, or 51 gauge, although some are made with a still higher gauge. The higher the gauge, the greater is the elasticity. The higher gauge means more stitches in the same size stocking, and naturally the stocking will stretch more easily without strain. Of course, the heavyweight yarns cannot be knitted on high-gauge machines because of the thickness of the yarn. When two stockings are made from the same weight yarn, but with different gauge, always choose the higher gauge. After you have had a little experience in comparing hosiery, you will be able to pick out the higher gauges by the fineness and closeness of the stitches. However, you should not depend on your own judgment in this matter. Always ask the saleswoman for the gauge. Sometimes the gauge is printed or knitted into the welt of the stocking.

In seamless hosiery the gauge is expressed in terms of the number of needles on the cylinder that knits the stocking, or in other words the total number of stitches used to knit once around the stocking. The number of needles used for wool and cotton hose ranges from 168 to 240. The gauge for circular-knit silk, nylon, or rayon hose goes as high as 400 gauge.

REINFORCEMENTS AID WEARING QUALITY

Durability of hose is greatly increased if points of wear and strain are reinforced. Tops, toes, soles, and heels should



Courtesy U.S. Bureau of Human Nutrition and Home Economics

Reinforcements in the foot of the stocking lengthen the life of your hose. Compare the reinforcements in the feet of the hose shown here. In which case is durability sacrificed for appearance?

be knitted with extra yarn for resistance to rubbing and pulling. Cotton is frequently used for reinforcements in silk, rayon, and woolen hose. One kind of reinforcement called plaiting is the knitting together of two yarns of different fibers so that one yarn is thrown to the outside of the stocking and the other yarn to the inside. A rayon stocking plaited with cotton would be knitted in such a manner as to have the cotton mostly on the wrong side of the stocking.

Women's stockings of good quality are made with a welt (hem) and shadow welt at the top. The garters should always be fastened into the welt and not the shadow welt. The purpose of the shadow welt is to ease the strain from the heavy welt to the lightweight fabric of the leg. There should be a

row of lock stitches below the welt or below the shadow welt to stop runs caused by garter strain.

Men's and children's socks of good quality are finished at the top with ribbing. The rib top made of good mercerized cotton has fine elasticity and will hold its shape even though laundered many times. A good rib top helps to keep the sock up on the leg. You should learn to distinguish between true ribbing and imitation ribbing. The true ribbing shows the same ribs or ridges on both sides of the fabric. Imitation ribbing is made by dropping stitches at intervals thus giving an effect of ribs. However, this imitation ribbing has no extra elasticity and does not hold its shape well.

Toes, heels, and soles should all be reinforced for durability at the points where the foot rubs against the shoe. The reinforcement should extend over the joint of the big toe and the width of the sole. Too little or too thin reinforcement results in holes and runs. Compare the reinforcements in the illustrations on page 142. Some hose of good quality are made with shadow reinforcements around the toe, sole, and heel. This lessens the strain on the sheer fabric of the foot and above the heel splice.

BUY THE CORRECT SIZE

Hosiery sizes are marked according to the length in inches of the foot of the hose. Size 9 has a foot that is 9 inches long, and size 10½ has a foot that is 10½ inches long. You can determine the size stocking that you should wear by measuring the length of your foot and adding one-half inch. The measurement of your foot should be taken when your foot is bearing the weight of your body. Stand on a paper and mark the line of your heel and the tip of your toe. Then measure the distance between these two marks and add ½ inch for the correct size of your stocking. Be sure to measure your foot when it bears your weight because it may measure longer than when relaxed. For durability and comfort your stocking should be as long as your foot is when you are standing or walking.

In long stockings the length of the leg is important, as well as the length of the foot. Length of the leg is measured from the heel to the top of the leg. Lengths vary from 27 inches to 35 inches. Average length is from 30 to 32 inches. Good shoppers always insist upon knowing the length of the leg when buying long stockings. Too short hose are tight over the knee and will soon develop runs. Too long hose are either baggy or must be fastened with the garter below the welt which will cause runs. Ask the salesgirl to measure the leg of your stockings before you buy them. It is a good plan to have the foot measured also because many socks are not true to size.

Men's socks are fairly well standardized in length. The half-socks are about 14 inches long; the intermediate socks are about 11 inches long; and sweat socks, crew socks, and anklets are about 8 inches long. A man can easily choose the length that suits his needs.

Children's socks come in anklet, $\frac{5}{8}$, and $\frac{7}{8}$ lengths. In each case the length in inches varies considerably, depending upon the size of the foot.

In women's long stockings there is still another measurement which is important for durability and comfort—the crosswise width at the hem. A good-quality stocking should stretch easily to 11 or 12 inches. Unless the stocking stretches easily to this width it has been skimped in knitting and will not wear long without developing breaks at the knee.

DYE AND DECORATIONS AFFECT QUALITY

Hosiery of good quality is colorfast to washing, light, and perspiration. Some dark-colored men's and boys' socks are likely to fade and discolor the water in laundering. Ask about this quality when purchasing hosiery.

Dyeing may be done either before or after the socks are knit. Streaking and uneven color may result when the dyeing is not well done. Hose that are dyed before the knitting is done are called *ingrain* hose. Better penetration of the dye



Courtesy National Bureau of Standards

This machine shows the behavior of the upper part of a woman's full-fashioned stocking when it is repeatedly distended and allowed to contract. It alternately pulls a stocking lengthwise and crosswise, just as if a lady were wearing it. After a few pulls, a poor stocking will show runs and lose its shape. A good stocking will withstand many pulls.

into the yarns and more even color is generally secured in ingrain hose.

Patterns or clocks may be knitted into the body of the fabric or they may be attached with loose stitches after the knitting has been done. When these decorations are knitted into the sock they are called *genuine wrap* or *true wrap*. When the decoration is applied by the cheaper method it is known as *mock wrap*. When buying patterned or clocked socks always examine the inside of the socks. The mock wrap is easily detected by the long, loose ends left when the pat-

tern is added. These ends are not comfortable for the foot and may pull out, thus spoiling the appearance of the sock.

TESTS BY NATIONAL BUREAU OF STANDARDS

The National Bureau of Standards at Washington, D. C., has developed a hosiery-testing machine which tests the durability of women's stockings at the knee. The machine stretches the stocking crosswise and at the same time pulls on it as though a garter were attached. (See the illustration on page 145.) The machine gives the stocking repeated pulls first lengthwise and then crosswise. Stockings of poor quality lose their shape and show broken threads after a few pulls. Stockings of better quality will stand the strain of many pulls.

Tests of hosiery on this machine show that brand names, price, and appearance are poor guides for selection of good quality.

POINTS TO REMEMBER WHEN BUYING HOSIERY

Since the shopper does not have a hosiery-testing machine to help her in the selection of her stockings, she must rely upon other guides. Some information can be secured from labels, other facts can be obtained from the salesperson, and some facts may not be available. The good buyer will at least try to obtain information about the factors which affect quality.

Keep the following points in mind when you shop for hosiery. Perhaps you will know more about good quality in hosiery than the salesgirls. If so, ask the buyer to answer your questions.

1. Is the hosiery full-fashioned, seamless, fashioned seamless, or cut and tailored?
2. What is the fiber or combination of fibers used?
3. What is the quality of fiber?
4. What is the weight?
5. What is the gauge?



Courtesy Consumers' Guide

These shoe lasts are all the same size—4 B—but not the same shape. This explains some of the difficulty in finding shoes that really fit.

6. What is the length of the foot? Of the leg?
7. If the hosiery is decorated with clocks or pattern, is it genuine wrap?
8. Is the price fair for the quality which you select? Compare prices for different qualities.
9. In sheer hosiery, is the fabric smooth and free from fuzz, rings, and defects?

THE SHAPE OF YOUR SHOE

Shoes begin with a block of maple wood which is shaped to resemble a human foot. The first model of hard maple is made by a skilled workman who tries to reproduce a pattern foot which is typical of a great many feet. This pattern made from the maple block is called a *last*. Each manufacturer of lasts makes many lasts which he thinks are shaped like our



Courtesy U.S. Army Medical Museum.

This X-ray picture shows the effect of an improperly shaped and ill fitting shoe on the bones of the foot.

feet. Each manufacturer has his own ideas about the shape and form of "typical" feet. There has been little scientific investigation to determine how most people's feet are shaped, so each manufacturer of lasts merely guesses at the shape of his lasts. Lasts for the same size feet are made in hundreds of different shapes. This is the reason that you may have to try on many different pairs of shoes before you find the pair which is shaped correctly for your foot. When you find a shoe that is shaped comfortably, ask for the name of the manufacturer and the number of the last so that you can buy another pair made over the same last at some future time. The shape of the shoe is tremendously important to foot comfort. The shoe should fit the shape of your foot. The

natural shape of your foot should not be distorted by your shoe. *It should not reshape your foot.*

Some lasts are made which are unlike the shape of any foot. Compare the shapes of the shoes in the two X-ray pictures. In the first shoe the toes are crowded into a pointed shoe, and the big toe is bent inward at a very unnatural angle. In the other shoe the toes are straight and fit naturally in the toe.

There is a saying that "an army is only as good as its feet," meaning that army shoes should be comfortable and durable. The War Department has developed a satisfactory type of shoe for soldiers and Army nurses. Many civilians buy shoes

made on the same type of last because they know these shoes are excellent for comfort and wearing quality.

Remember that there is nothing more important to foot comfort than the shape of your shoe. The foot consists of twenty-six bones and many ligaments, muscles, blood vessels, and nerves. Shoes which exert too much pressure on one part of the foot or throw the foot out of its natural shape can produce intense pain and serious injury. Do not punish yourself with wrong-shaped shoes.

THE HEIGHT OF THE HEEL

The height of the heel on men's and boys' shoes varies from 1 to 1 $\frac{3}{4}$ inches. These broad, flat heels furnish good support for the heel of the foot and the weight which it supports. The height of the heel

on women's and girls' shoes varies from 1 inches to 3 inches and higher. These heels are known as flat, Cuban, boulevard, Spanish, spike, and French. Most authorities agree that flat heels or Cuban heels are best for everyday wear. A heel which is higher than 1 $\frac{3}{4}$ inches throws the body off balance and prevents a natural and graceful walk. A foot in a high-heeled shoe is thrown out of its natural shape, jamming the toes and ball of the foot into the toe of the shoe. The high heels have a very small base and this frequently causes the foot to wobble. There is no fundamental difference in struc-



U.S. Army Medical Museum

This X-ray picture shows the effect of a properly shaped and correctly fitted shoe on the bones of the foot.

ture between men's and women's feet. Unfortunately, some women feel that because they have high insteps they must wear high-heeled shoes. When high heels have been worn for some time, the muscles in the heel and back of the leg become shortened and it is painful to wear low heels. The change from high heels to low heels should not be made abruptly, but should be made gradually.

Probably style is the chief reason why most girls and women select high-heeled shoes. High heels are fashionable and to some people seem more attractive than low heels. As a matter of fact, high-heeled shoes with pointed toes are not at all beautiful because they distort the natural shape of the foot.

THE FIT OF THE SHOE

The fit of your shoe begins with the shape of the last. First, make sure that the shoe is correctly shaped for your foot. Then check for the following points.

Is the length right? Your toes should never touch the end of your shoes. There should be some space, but not too much space, between the end of your toes and the end of the shoe. The shoe should never press on the tops of the toes nor squeeze them together. A shoe that is too short and tight may cause corns, bunions, and permanent distortion of your foot.

Is the ball of your foot in the right place? The widest part of your foot extends crosswise from the joint of the big toe. (See the illustration on page 151.) This part of your foot should rest in the widest part of your shoe. Check this point by feeling to see whether the big joint is located at the sharp curve on the inside of the sole. You can also check this point by raising the heel to see whether the bend in the sole comes directly under the joint of the big toe. Be sure that the crease made in the leather when you raise your heel does not cut into your foot. Otherwise the shoe will not be comfortable when walking.

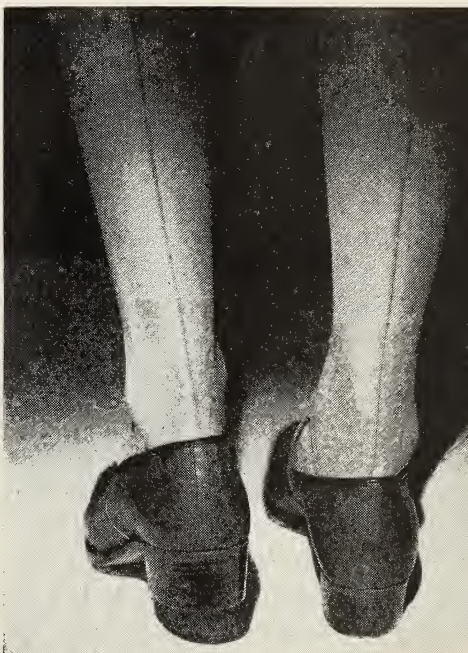
Does the top of the shoe fit? The top of the shoe should

be neither too loose nor too tight. A laced shoe should not be so loose that the sides can be pulled together, and a pump should not be so tight that it cuts into your flesh around the top. Do not depend upon stretching to remedy a pump that is too tight around the top because stretching the top will probably ruin the shape of the shoe.

Is the width of the shoe right? The shoe should be wide enough so that you can move your toes a bit without crowding. Never depend upon stretching to make shoes wider or longer. Stretching spoils the shape and may pull the material loose at the seams.

Does the shoe fit the arch of your foot? The shank of the shoe should hug the arch of your foot. A shoe that fits well through the arch gives extra support and comfort to the foot. Do not buy a shoe that is loose and bulgy under the arch of your foot.

Does the heel fit correctly? The heel of your shoe should fit snugly. It should not slip up and down as you walk, nor bulge away from your foot, and it should not cut into your heel. Here is another place



Courtesy Consumers' Guide

The fit of the shoe should be carefully checked. The ball of the foot should fit into the widest part of the shoe (top), and the heel should fit snugly (bottom).

where you should not depend on stretching or other alterations to make the shoe fit correctly.

Is the shoe comfortable when you stand and walk? Be sure that the shoe is comfortable when you stand and walk. Toes spread and arches lengthen when feet bear the weight of the body.

Do not worry about the size. Some people will not buy shoes that are big enough for their feet, because they do not want to believe that they really have big feet. Do not let vanity interfere with your health and comfort. Never ask the size of the shoe. Instead give all your attention to how it feels on your foot.

TYPES OF SHOE CONSTRUCTION

There are several methods of shoe construction. These different types of construction are not easy to understand unless you can see the shoes being put together. However, you can learn the principal features of each type of construction from diagrams and descriptions. Most important of all, you can learn the characteristics and advantages of each method of construction. This will help you to select shoes more wisely to suit your own needs.

The *welt construction* is used for high-grade women's street shoes and walking shoes, some children's shoes, and almost all men's shoes. It is a very sturdy type of construction. The welt is a strip of leather which runs around the edge of the shoe, extending to the inside far enough so that the upper and insole can be sewed to it. First, the insole is tacked to the last; then the whole upper is forced on the last and tacked in place over the edge of the insole; and the welt is sewed to the upper and insole. Then all tacks are removed; the welt is beaten down so that it is even with the insole; and the outsole is stitched to the welt. You can see this row of stitching around the edge of the welt. Generally you can detect the layer of leather which forms the welt. Remember that welt construction is the best type for strong and comfortable shoes.

McKay construction is used chiefly for medium-priced and low-priced women's and children's shoes. This type of construction is not so durable or comfortable as the welt construction. The upper, the insole, and the outsole are clinched together with lasting tacks and then stitched. The row of stitching and the clinched tacks can be felt around the edge inside the shoe. There is no stitching around the outside of the shoe. Sometimes the stitching and tacks inside irritate the foot.

Littleway construction is similar to McKay construction, but the process includes better features. Fine wire staples are used to hold the upper to the insole but do not penetrate to the foot surface. A lockstitch holds the insole and outsole together. If you can lift the sock lining of a shoe you can tell whether it is McKay or Littleway construction. In the McKay you can see the lasting tacks, but in the Littleway there is only the stitching. Littleway construction is used in women's medium-priced and low-priced shoes.

Stitchdown construction is used chiefly for children's shoes, play shoes, and sport shoes. It is the cheapest type of construction. The edge of the upper is turned out and stitched to the outsole. Sometimes a welt is added on top of the upper. This should not be confused with welt construction, because the welt does not extend inside the shoe.

Cemented construction is used for shoes of both good and poor quality. The materials and workmanship make the difference in quality. The uppers and soles are held together by cement.

Turned shoes are stitched together wrong side out and then turned right side out. There is only one sole. Turned shoes can be recognized by feeling around the inside edge for the stitching and the seam where the upper leather laps onto the sole. Turned shoes are very light and flexible. They are comfortable for housewear and for "dress-up" occasions, but they are not good for walking or outdoor wear. The soles are lightweight and are not durable or comfortable for walking on rough surfaces. Not so many turned shoes are made

today as formerly because other methods of construction are now lightweight and flexible.

Always ask the shoe salesman what type of construction was used in shoes that you consider buying. Ask him also to point out the features of the construction. Many shoe clerks will not be able to give you a satisfactory answer, but experienced salesmen will be able to show you the differences in various types of construction.

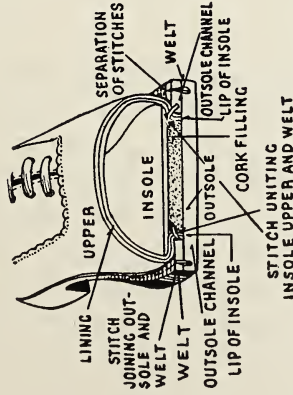
There are more than forty types of shoe construction. The six types of construction described in the preceding paragraphs are those most commonly in use. There are a great many variations of these general methods of construction. Nailed or pegged construction and moccasin construction are entirely different methods of construction, which are not discussed here.

According to an experiment conducted by the National Bureau of Standards, no one method of construction is greatly superior to another.² Four different types of shoe construction—welt, Littleway, McKay, and cemented—were tested on a shoe-endurance machine. Each shoe took 1,000,000 steps on the machine. There was no general breakdown or change of shape in any of the shoes. Each of these shoes was made of materials of good quality with excellent workmanship. When shoes made of materials of poor quality and with poor workmanship were tested in the same way, serious damage to the shoes resulted after only 35,000 steps. The breakdowns were caused by inferior materials and workmanship. Results of this test show that durability depends more on materials and workmanship than upon the method of construction.

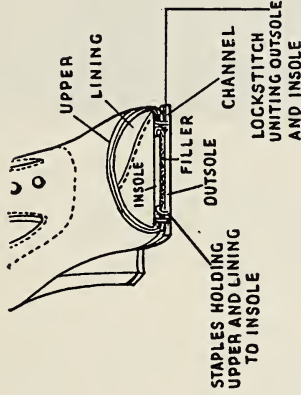
Some shoe experts believe that welt shoes are the sturdiest and most durable construction. They are easily repaired, especially if the strip of leather used for the welt is of good quality. Turned shoes are difficult to repair and are not meant for hard wear. Cemented shoes of good quality are easily repaired and wear very well. Shoes made with lasting tacks

² Bowker, Roy C., "Shoe Constructions." National Bureau of Standards. Circular 419. United States Government Printing Office, Washington, D.C., 1938.

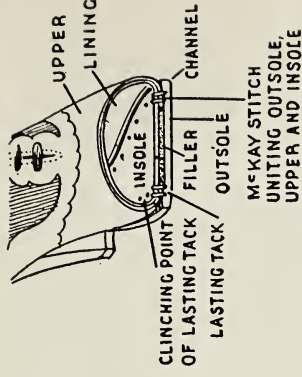
Welt Construction



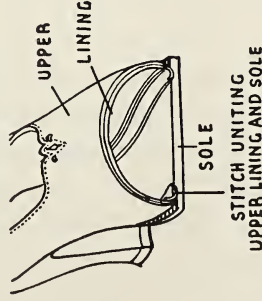
Littleway Construction



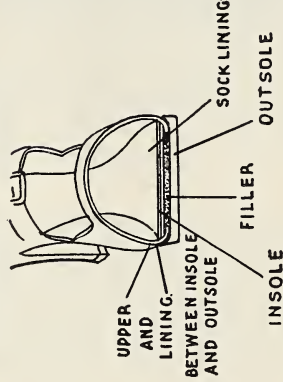
McKay Construction



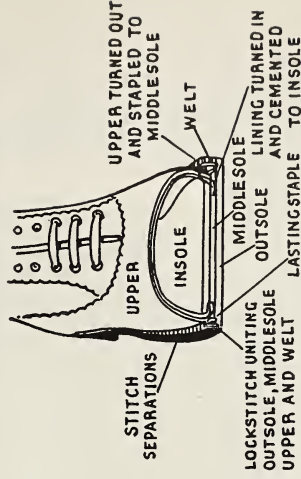
Turn Construction



Cemented Construction

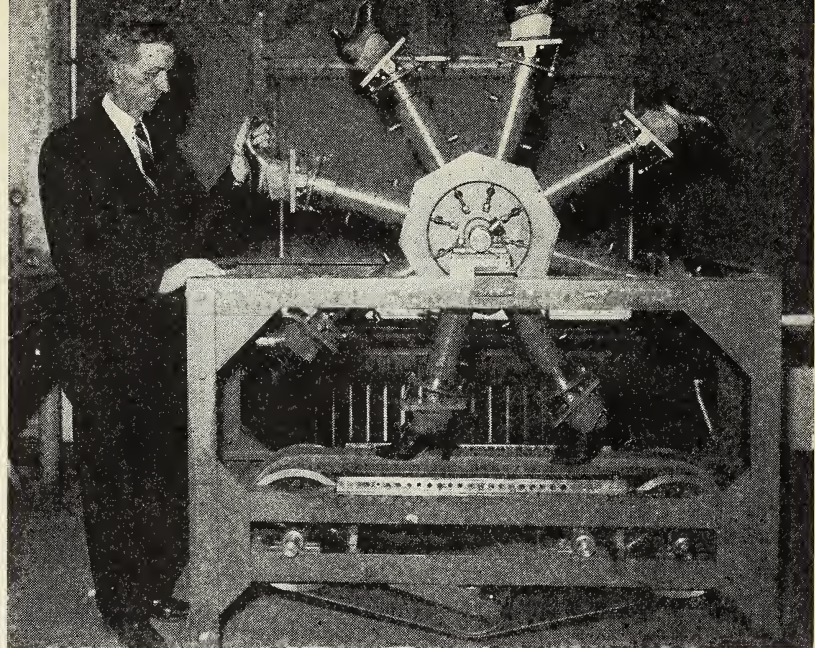


Stitchdown Construction



Courtesy Research Bureau for Retail Training, University of Pittsburgh

Types of shoe construction.



Courtesy National Bureau of Standards

Shoe-testing machine. This walking machine in a laboratory of the National Bureau of Standards is testing sample shoes. Within a short time a shoe has walked many miles on this machine, and the durability of the shoes can be accurately tested.

may prove uncomfortable unless the workmanship is very good. Before making a purchase, always feel inside the shoe around the edge to see if you can feel the lasting tacks.

THE LEATHER IN YOUR SHOES

Sole leather of good quality is important because the soles generally wear out before the uppers in our shoes. Most sole leather comes from cattlehides. Its quality depends on the part of the hide from which it is cut and the method of tanning. Good soles are flexible and fine-grained. The best sole leather is taken from the back and sides of the animal. This part of the hide gives a much more durable leather than the shoulders or belly of the animal. Vegetable tanning is most satisfactory for sole leather.

Upper leather is made from the hides of several animals—

cattle, calf, goat, horse, and kangaroo. Good leather is firm, pliable, and fine-grained. Cheap leather is coarse-grained and either brittle or easily stretched. You can judge the quality of leather in the uppers of your shoes by bending the shoe and observing the creases. Good leather breaks into many fine creases, about 60 to the inch. Poor leather breaks into about half as many big creases. This test is better for judging smooth leathers than for suede or patent leather. Another test for good leather is odor. Good leather has a distinctive odor.

Cattlehide side leather is used for all types of moderately-priced and low-priced shoes. It is called side leather because the hide is cut down the middle of the back, making two sides. Cattlehides are very thick and are usually split in two. The outside is called top-grain leather and is the best in quality. Top grain can be recognized by the fine hair holes. The flesh side of the hide is called *split leather*. It can be polished and waxed to smooth finish, but it is neither so durable nor so beautiful as top grain. Sometimes split leather is treated so that it has an artificial top-grain finish. However, the artificial finish does not make the split leather so durable or so pleasing in appearance as top grain.

Calf leather is made from the skins of young cattle. It comes in varying weights and qualities. Heavy calfskin is used for boys' and men's shoes, and lightweight calfskin is used for women's and children's shoes. The best quality of calfskin is called full-grain leather. Calfskin is seldom split, but sometimes cattle skins are split to the thickness of lightweight calfskin, embossed with calfskin grain, and sold as calfskin.

Calf leather is finished in a variety of ways, such as smooth, embossed, suede, patent, and glazed finishes. Many of the patent and suede leathers on the market are made from calfskin, but other leathers are also used for these finishes. The best patent leather is made from full-grain calfskin. Remember that patent leather is nonporous because of the finish, and therefore, it often causes the feet to become hot and uncomfortable. Most suede leather used for shoes is made by buffing

calfskin on the flesh side with an emery wheel. This leaves a fine, silky nap on the surface of the leather. Good suede has a rich, even color that will not rub off. When you are selecting suede shoes rub the surface lightly with your handkerchief. Only a very faint trace of color should show on your handkerchief.

Elk leather is really cattlehide side leather or calfskin with a special finish and tanning. Heavy elk leathers are used for workshoes and outing boots. Lightweight elk leathers are used for children's and sports shoes. Some elk leathers are heavily buffed in order to remove blemishes from the surface of the leather. This buffing causes them to scuff easily and destroys their durability.

Kid leather is made from the skins of goats. It is of lighter weight than calfskin and is very pliable and soft. It is very strong for its weight. Genuine kid leather made from the skins of baby goats is not used for shoes. Kid leather for shoes is finished smooth or glazed in black, brown, white, and other colors. Sometimes kid leather is imitated with sheepskin, which is soft and pliable but very stretchy. Cheap "kid" shoes generally are made from sheepskin and will scuff and lose their shape easily.

Buckskin is made from deer or elk skins. It is made with a fine, napped surface and is usually finished in white. Since it is porous and cool, it is suitable for summer wear. Buffed cattlehide is often sold for buckskin. Genuine buckskin is rather expensive. Always ask whether you are getting buckskin or buckskin finish in your shoes.

Kangaroo leather is similar to kid leather in appearance. It has a very close, fine grain and is very strong. Kangaroo leather is expensive, but uppers made from kangaroo will outwear several soles.

Cordovan leather is made from horsehide. It is very tough, scuff-resistant, and durable, but rather stiff. Cordovan leather has a very close texture, so it is not desirable for those whose feet have a tendency to perspire. Many high-grade men's shoes are made from Cordovan leather.

OTHER SHOE MATERIALS

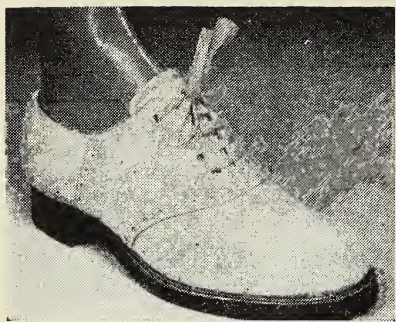
Shoe linings are made from leather, paper, and cloth. Leather is the most satisfactory material because it is comfortable and helps the shoe to keep its shape. Always examine the shoe linings when you are selecting shoes. Some insoles are made from fabricated materials instead of leather. The best insoles are made of fine-textured leather. Sometimes it is possible to see the insole by lifting the sock lining of a shoe.

Counters—the stiff parts which give shoes their shape around the back—may be made of leather or fiberboard. Good leather which has been beaten into the correct shape is best, but good fiberboard is better than poor leather.

Both uppers and soles may be made from materials other than leather. Rubber crepe soles are cheaper than good leather and wear better than poor leather. Fabrics of various kinds are used for uppers, especially in play shoes. Very good dress shoes are made from wool gabardine. Good fabrics give a reasonable amount of wear, but they do not last so long as good leather.

THE RIGHT SHOE FOR YOUR PURPOSE

The selection of a pair of shoes involves many points for consideration. You must select the right last for your foot, secure a good fit, select shoes of good construction and good materials, and the right type of shoes to suit your needs. There are walking shoes, dress shoes, play shoes, laced shoes, pumps, toeless shoes, heelless shoes, and other kinds from which to choose. Appropriateness and suitability are important, and your first thought should be, “what *kind* of shoes shall I buy?” Before you buy, decide what kind of shoes you need. Are they for work or play or dress? If you cannot afford a separate pair of shoes for every costume and every occasion, it is especially important to make the right choice. When shoes are rationed by government regulation as during the Second World War, this point is of the greatest



Courtesy Pittsburgh Press

These attractive shoes were designed for war workers who wanted comfort and durability. Why should we not always wear comfortable and attractive shoes?

importance, because even though you have the money to buy several different pairs of shoes, you are allowed only a limited number.

Everyday shoes for wear at school, on the street, and at home should be low-heeled and durable. This does not mean that they need be great heavy clodhoppers, but they should be really comfortable as well as attractive. High-heeled shoes, toeless and with heelless backs, are not suitable for walking to school, for shopping trips, or for any everyday wear. Such shoes should be saved for parties and for "dress-up" occasions. Exposed toes and heels do not look very pretty hopping on and off streetcars or hurrying around school corridors. Probably the most inappropriate and ridiculous combination

possible is a pair of high-heeled shoes worn with slacks or shorts! Intelligent consumers never plan to take their dress shoes for everyday wear as soon as the shoes become a bit worn, unless the shoes worn for dress are the right type for everyday wear.

POINTS TO REMEMBER WHEN BUYING SHOES

Plan wisely and choose well when you buy shoes. Here is a summary of the points studied which will help you to make your selections.

1. Decide first what kind of shoe will best suit your needs.
2. Insist on the right last for your foot.
3. Check all points for a good fit.
4. Ask what method of construction was used in your shoes.
5. Insist on knowing the kind and quality of leather used in your shoes.

SUGGESTIONS FOR DISCUSSIONS AND ACTIVITIES

1. Bring to class advertisements for hosiery and catalogue descriptions of hosiery. These should include statements about hosiery for men, women, and children. Check these statements for *information*. How much can you learn about quality from advertisements and catalogues? You should check for method of construction, weight, quality of fiber, gauge, size, and price.

2. Plan for a day when each member of the class will bring one or more pairs of hosiery to school. Compare these for qualities which can be detected by the eye. The owner of each pair should be prepared to give any specifications which he or she may have.

3. If possible invite a hosiery buyer or manufacturer to talk to the class about quality in hosiery.

4. Bring to class advertisements and catalogue descriptions about shoes. Check these for *information about quality*. Make a list of the points which are not given and which you think should be given.

5. Arrange for a day when class members check the shoes they are wearing for fit. Check also for appropriateness.

6. Compare the size and shape of your foot with the shoes you are wearing. Stand on a piece of paper and trace around the outline of your foot. Set your shoe over this pattern of your foot. Is your shoe the right shape? Is it long enough? Is it wide enough?

YOUR CONSUMER INVESTIGATIONS

1. Appoint members of the class to visit certain hosiery shops. Find out the price of the cheapest hose, the medium-priced hose, and the highest-priced hose. Ask for all available information about the quality of the hose. Write down this information before you leave the shop. Your information should include brand names. Compare your findings with those of other members who have made similar investigations.

2. Ask one member of your group to write to manufacturers of nationally advertised shoes for information about the quality of materials and methods of construction in their shoes. Ask definite questions in your letters.

3. Report any experiences you have had in buying shoes when you have tried to check for the points given on page 161.

~7~

GOOD QUALITY IN WOOL COATS AND SUITS

EVERYONE wears a coat or suit of some type. Overcoats, topcoats, jackets, mackinaws, business suits, and dress suits are only a few of the types that are worn by men and boys. Heavy winter coats, lightweight "spring" coats, jackets, and tailored suits are some of the types worn by women and girls. The purchase of this type of clothing requires a larger expenditure of money than is required for most articles of clothing. Therefore, it is particularly important that consumers should get good value for their money when they buy their coats and suits.

We cannot consider qualities and values in each type of coat or suit separately, but we can study the qualities that are important to all types. To test your knowledge of wool coats and suits, try the quiz below. (*Do not write in the book.*)

CONSUMER QUIZ

1. Why do all wool products now carry labels stating the amount of wool fiber present in the product?
2. What is the meaning of the terms virgin wool, reprocessed wool, and reused wool?
3. Worsted materials are durable and hold their shape well. True or false?
4. The _____ weave is considered most durable of all the weaves.
5. The amount of twist in a woolen yarn affects its strength and durability. True or false?

6. How can you test a napped material like flannel for the durability of the nap?
7. Give six points in *workmanship* for which you would examine a coat or suit before purchasing.
8. Give four points on *fit* for which you would check a coat before purchasing.

DESIRABLE QUALITIES IN COATS AND SUITS

There are three qualities essential to good value in coats and suits—*durability*, *comfort*, and *pleasing appearance*. Durability is affected by the type and quality of fabric, by the workmanship, and by the suitability of the garment for its use. A lightweight coat made from cheap, stretchy fabric and put together with careless workmanship cannot possibly wear as long as a coat made from good, firmly woven fabric carefully put together. Comfort is affected by the weight of the coat, its warmth, style, and fit. A coat for active outdoor wear should be loose but not bulky, and warm enough but not too warm for the purpose. Attractive appearance is affected by color, cut, general design, and becomingness. A mackinaw made from bright red-and-black checked material is not so becoming to a fat man as a mackinaw made from plain material. There are many variations in the cut and style of coats and suits which affect appearance. These styles change from year to year. Everyone should learn to select the design which is most becoming.

Durability, comfort, and appearance in coats and suits depend partly upon hidden qualities in fabric and workmanship, but also upon other qualities which consumers can check for themselves. When you select a coat or suit, you should have in mind certain definite points to consider. Intelligent shoppers gradually acquire a great number of facts which are useful in buying the many commodities needed for daily living. Indeed, the successful shopper makes it her business to learn all she can about qualities in the products which she buys. As you study this unit you can learn many things about judging quality in suits and coats.

THE FABRIC IN YOUR COAT OR SUIT

A great variety of fabrics is used for coats and suits. Wool is the fiber most used, but other fibers are also used, especially for children's and women's suits and coats. Since wool is used most extensively, we shall study qualities in woolen fabrics in this unit.

Wool is more expensive than other fibers used for suits and coats. Naturally, when we get cotton or rayon we do not wish to pay for wool. Even the expert cannot always tell from the feel and appearance whether a fabric is all wool or adulterated with another fiber. What help can the consumer expect when buying wool fabrics?

WOOL PRODUCTS LABELING ACT OF 1939

A federal law, known as the Wool Products Labeling Act, protects consumers when they buy woolen materials either by the yard or in ready-made garments. It requires truthful labeling of wool content in all fabrics which are sold in interstate commerce. This law also requires the accurate labeling of all merchandise containing wool—just as the Federal Food, Drug, and Cosmetic Act requires the truthful labeling of all drugs and processed foods. The only exceptions under the Wool Products Labeling Act are rugs and upholstery materials. The law does not require labeling for wool content on these articles.

The Wool Products Labeling Act requires certain facts to be stated on the labels. Read your labels for the following information.

1. The percentage of *wool*, *reprocessed wool*, and *reused wool*. According to the law, *wool* is the term to be used for new wool processed directly as taken from the fleece of a sheep. It also includes the hair of the angora or cashmere goat, the hair of the camel, alpaca, llama, and vicuna. If the manufacturer wishes he can name the special fiber instead of calling it wool. A label might state the contents of a fabric as follows:

THIS
Sackville
SUIT
IS TAILORED OF
IRONTEX®

WILL WEAR EXCEPTIONALTY WELL
Its cloth counts as one. The warp closely
weaves and the filling forms a fine pile. The
filling is made not only of wool, but of
mules, 22 to 24, and the breadth
strength is about 60 lbs. in the warp and
20 lbs. in the filling. Irontex is an unusually
strong, durable fabric.

WILL CONTINUE TO FIT PROPERLY
Shrinkage is not more than 1%.

WILL GIVE GOOD SERVICE
Laboratory tests show that Irontex has an
extraordinary high resistance to abrasion.
Through its close weave, fabric of its weight
and construction. It is lined with high count
rayon acetate, and all button holes and seams
are sewn with all-wool, higher count.

WILL CLEAN EASILY
Now it is dry and good as when it came.



Macy's Bureau of Standards

THIS
Sackville
SUIT
IS TAILORED OF
IRONTEX®

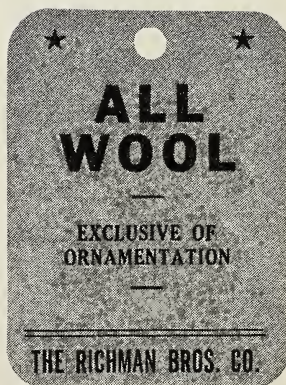
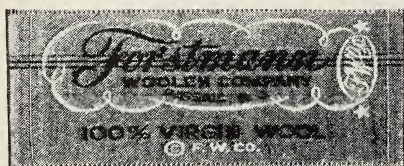
A warm and comfortable wear. A
durable suit. A suit of sturdy, close
weaved fabric. It has a plain front and a
long drape. You will find it easy to wear.
In Sackville suits, tailored and styled
with approved Saville skill. We warrant
it to give excellent service because made by
Macy's Bureau of Standards, shows that it
meets our exacting specifications.

Please see reverse side

EXCLUSIVE WITH
MACY'S MEN'S STORE

Macy's
NEW YORK

100 to 1000



Courtesy Macy's Bureau of Standards, Forstmann Woolen Company, Botany
Worsted Mills, and The Richman Brothers Company

Sharlko GABARDINE

A SPECIAL FABRIC ARLINGTON-
LOOMED FOR QUALITY RAINWEAR.

1. Naphthalated Wool (78%) supplies warmth and protection.
2. Fine combed cotton (22%) adds strength and better rain-proofing qualities.
3. Tailors well; holds press.
4. Colors fast to dry cleaning.
5. Cravenette processed.

THIS FABRIC IS MADE OF

78% WOOL
NAPHTHALATED
22% COMBED COTTON



For Naphthalated Wool, every wool fleece is first cleansed by naphtha baths, then gently washed in pure water. This eliminates the usual soaping, scouring and excessive handling and preserves the original life, strength and resiliency of the wool fibers.



Courtesy Arlington Mills and The Richman Brothers Company

The informative labels on this page and on the facing page are helpful to the consumer who wants to buy a wool suit.

55% camel's hair
45% alpaca

or

100% wool

Reprocessed wool is the term that must be used for yarn or fabric made from scraps which have never been used by

the consumer. These scraps are generally left-over products in garments factories where garments are cut from new wool.

Reused wool is the term used for yarn or fabric made from scraps collected after use by consumers. An old discarded winter coat or sweater may find its way through reprocessing into new fabric for another coat. But it must be labeled *reused wool*.

Many combinations of wool, reprocessed wool, and reused wool are used in yardgoods and ready-made clothing. You will find many labels indicating combinations of all three kinds of wool.

45% wool

35% reused wool

20% reprocessed wool

50% reused wool

30% reprocessed wool

20% wool

2. The percentage of fibers other than wool, reprocessed wool, or reused wool must be stated. If a fabric is part cotton or part rayon, the percentage of each fiber present must be given on the label. A label might read as follows:

60% wool

40% rayon

30% reprocessed wool

70% cotton

50% wool

25% cotton

25% rayon

3. The label must carry the name of the manufacturer or distributor of the product. According to the law the name may be that of the manufacturer, wholesaler, or retailer. The company or person named on the label is responsible for the truth and accuracy of the label.

4. The law does not require a statement of the fiber content in linings, paddings, or trimmings used on a garment.

QUALITY OF FIBER IS IMPORTANT

Woolen fabric of good quality feels springy and full of life. It resists wrinkles and will not crease easily. Woolen fabric of poor quality feels stiff and boardy. It is lifeless and heavy. When you are buying a woolen garment gather up a handful of the material and try to crush it. After you have

learned the feel of good wool, you can judge the quality to some extent.

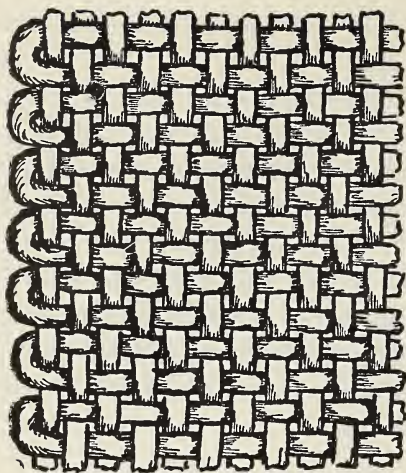
Of course you will read the label to see what *kind* of wool has been used. Unfortunately, the label does not tell you enough about *quality*. Some new wool is not so good in quality as some reprocessed wools. The best new wool is better than the best reprocessed wool, but not all new wool is of the highest quality. Some people feel that the Wool Products Labeling Act does not require enough information about quality. Certainly it would be helpful to consumers if each label stated just what could be expected of the wool in terms of quality or durability.

TYPE OF YARN IS IMPORTANT

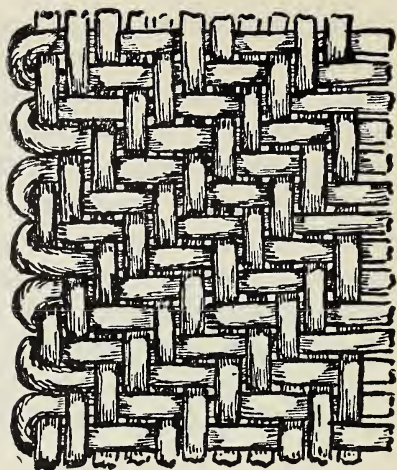
In the discussion of woolen hosiery (page 138) you have learned the difference between woolen and worsted yarn. The difference between woolen and worsted woven fabrics is the same as between woolen and worsted knitted hosiery. Worsted fabrics used in suits and coats are smooth in texture. They are very sturdy and generally wear longer than woolen fabrics. However, the worsted materials are inclined to become shiny after considerable wear, and this is objectionable from the standpoint of appearance. Worsted materials hold their shape excellently; for example, creases in trousers and pleats in skirts hold their shape better than in woolen materials.

Woolen fabrics are softer than worsteds but not so strong. Some woolen fabrics are very much better than others. Their quality depends partly upon the quality of fiber used and the weave and finish. Woolen yarns are generally used for such materials as flannels, melton, and mackinaw cloth. These fabrics do not often wear shiny but unless they are of good quality, they may become "baggy."

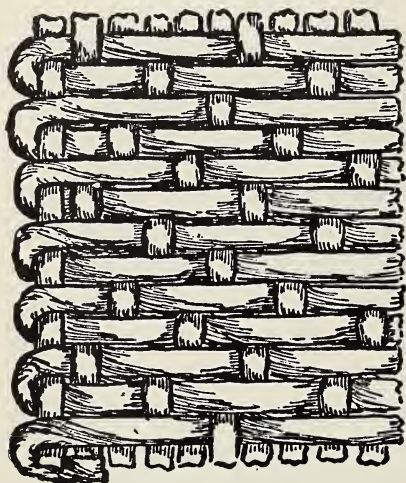
Well-twisted yarns are stronger than those with very little twist. Try untwisting some woolen and worsted yarns. Unravel some yarns from the seams of your coats and suits. Do



A



B



C

These diagrams show how the three basic weaves are constructed: A, plain weave; B, twill weave; and C, satin weave.

you find that some yarns untwist and pull apart very easily, while other yarns, with greater twist, are much stronger? Obviously, the tightly twisted yarn will make a stronger fabric.

STUDY THE TYPE AND QUALITY OF WEAVE

There are three general types of weaves which every consumer should know. The plain, twill, and satin weaves are the

basic weaves. These three weaves and their variations are used in most fabrics which we commonly use. Most coat and suit fabrics are made with the plain or twill weave. The plain weave (illustration A, page 170) is the simplest form of weaving. Sometimes it is called the "under one and over one" weave. Homespun, some tweeds and flannels, and worsted crepe are made with the plain weave.

The *plain weave* may be strong and durable, or it may be weak and stretchy. The closeness of yarns is important in any weave. Yarns (or threads) should be close together and regular. There should be approximately the same number of yarns running in both directions per inch. Warp threads and filling threads should be well balanced for firmness and durability of weave. A fabric which has 70 threads per inch both in warp and in filling is called 70 square. Closeness of threads is especially important for firmness of weave. If the threads are too far apart they will slip sideways, and a suit or coat made from such a fabric generally becomes baggy.

Test the fabric of your coat or suit by pulling on it in both directions. Place your thumbs and fingers close together and try to pull the fabric apart. Do the threads slide and slip? This is called slippage. Try this test in both directions on the fabric, up-and-down and crosswise. It is not advisable to buy a coat or suit in which the fabric shows a tendency to slippage.

The *twill weave* is considered the strongest and most durable of all the weaves. It is woven so that diagonal lines are formed on the surface of the fabric. (See illustration B on page 170.) Sometimes the diagonal lines are arranged in V-shaped or herringbone patterns. Coat and suiting materials commonly made with the twill weave are tweed, flannel, serge, and gabardine.

Closeness of threads and balanced construction are just as important in the twill weave as in the plain weave. Test twill weaves for slippage in the same way that you test plain weaves.

The *satín weave* produces a smooth, lustrous surface on the right side. You can see how this effect is secured in illus-

tration C on* page 170. Long, "float" threads pass over several of the threads going in the opposite direction. When the floats are the warp threads, the weave is called the *satin weave*. When the floats are filling threads, the weave is called the "sateen weave." The satin and sateen weaves are used in many lining materials. Fabrics with a smooth surface are suitable for lining materials, because they make it easy to slip a coat on and off.

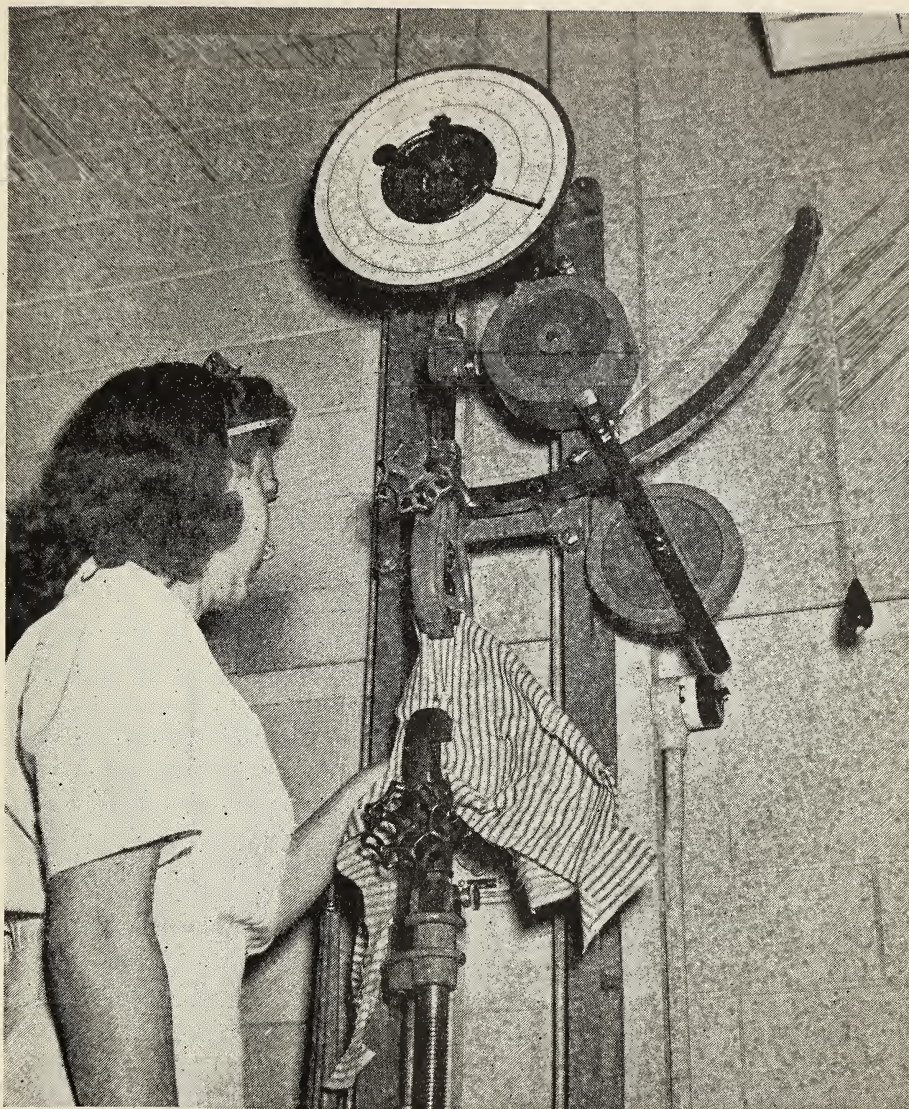
The satin weave and the variation called the sateen weave are not so durable as either the plain or the twill weaves. The long floats on the surface of the cloth are easily snagged and broken. The surface often becomes roughened with wear.

Always test lining materials for slippage. The lining of a coat should wear as long as the outer fabric. It happens frequently that linings are not so durable as the outside material. Firmly woven, satin-weave lining materials will wear as long as the outer fabric, providing they are made from fiber and yarn of good quality.

When durability is desired, select firmly woven materials. Testing for slippage is one way of testing for firmness. If the yarns shift or the fabric becomes bulgy where pulled, the weave is not close and firm. This means that the fabric will not hold its shape and may pull out at the seams. Another indication of poorly constructed weave is a fabric that frays easily. Examine the raw seams of the garment to see whether the fabric has begun to fray badly.

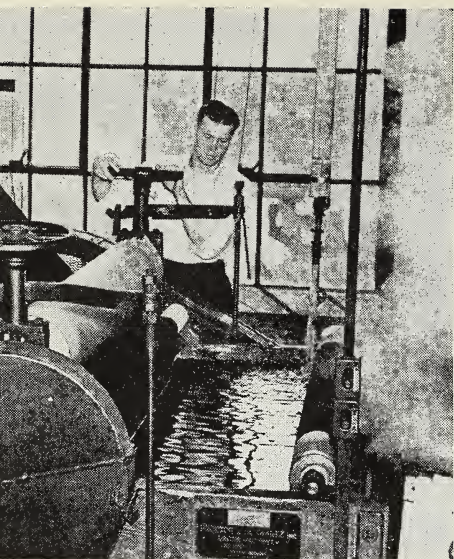
TESTING FOR TENSILE STRENGTH

The durability of a fabric depends to a large extent upon its tensile strength. If a strong pull is required to pull a fabric apart, the tensile strength is good. Take a piece of tissue paper between your fingers in both hands. Pull it apart. This does not require much pull. Now take a piece of typewriting paper and pull it apart. This requires a stronger pull. Next take a piece of thin cardboard and try to pull it apart. Probably you cannot do it because you cannot pull hard enough. Obviously,



Courtesy Photo Section, Philadelphia Quartermaster Depot

Tensile strength is one of the most important elements in the durability of textiles. Here an operator is shown testing the tensile strength of a fabric in a specially conditioned room where ideal temperature and humidity conditions prevail.



Courtesy The Richman Brothers Company

Before woolens are cut and tailored, they are thoroughly shrunk. First, hot steam is shot through the cloth. Next, comes a cold water bath. Rollers then squeeze out the water, and the material is passed through long chambers of hot, dry air. Finally, another shot of hot steam. Then a long, slow refinishing process, and the fabric is ready for cutting and tailoring.

the cardboard is much stronger and more durable than the tissue paper. The same kind of difference exists among fabrics of various kinds. Sometimes two fabrics which look alike are very different in tensile strength.

A machine has been invented to test for tensile strength of fabrics. You can see in the illustration on page 173 how the machine holds the fabric and pulls it apart. When the cloth breaks, the machine registers the amount of pull required. The machine in the picture is used by the army to test fabrics for use in army clothing and supplies.

Some manufacturers test fabrics before selecting their materials for coats and suits. Consumers cannot do this, so they must rely upon the honesty of the manufacturer regarding the strength and durability of the fabrics in their garments.

CONSIDER THE FABRIC FINISH

Beauty and durability of a fabric depend greatly upon the finishing process. If you should see your coat fabric as it came from the loom, you probably would not recognize it again after the finishing process. Fabrics are given different finishing processes depending upon the kind of finish desired.

All woolen fabrics are shrunk during the finishing process. This is called *fulling*. (See the illustration at the top of the

page.) One type of fulling generally used for coat and suit materials consists of steaming and pressing the fabric. This causes the scales of the wool fibers to interlock and draws the fabric more closely together. Fabrics may shrink from 15 per cent to 25 per cent in the fulling process. In another method of shrinking, called chlorination, some of the scales are removed from the fibers. If not properly done, this process may injure the durability of the wool. Chlorination is used mostly for underwear and hosiery made from wool.

Dyeing is very often one of the finishing processes carried out after the fabric has been woven. Sometimes the yarn is dyed before the fabric is woven. Yarn-dyeing generally colors more evenly than piece-dyeing, because the dye penetrates the fibers more deeply. However, piece-dyeing is cheaper, so a great many materials are piece-dyed. Ravel a yarn from a seam in your coat or suit. If the color is even with no lighter spots, the fabric was probably yarn-dyed. If you can see lighter color in spots where the threads were pressed together in weaving, the fabric was probably piece-dyed. However, the wool fiber takes dye very well, and piece-dyed fabrics may be very satisfactory.

Napping is a finishing process used on woolen materials to produce the soft, fuzzy fluff on the surface of such materials as flannel, tweed, and mackinaw cloth. The surface of the cloth is roughened with teasels (a thistlelike plant), wire teasels, or emery cloth. This pulls up the ends of the wool fibers making a fuzz or nap all over the cloth. In some fabrics the nap entirely conceals the structure of the weave. Sometimes the fabric is so heavily napped that the structure is weakened. Shoppers should always examine flannels and other heavily napped fabrics for thin places. Hold the fabric toward the light and you will be able to see any thin spots caused by too much napping. In the case of cheap, napped materials, short wool fibers are sometimes pressed onto the surface of the fabric. This gives the appearance of a more heavily napped fabric than it actually is. The imitation nap soon comes off, leaving a thin fabric. Test napped materials by rub-

bing briskly in one spot. If a fluff comes off the surface easily, the nap was pressed on to give the impression of a heavy fabric with a thick nap. A good napped material does not readily lose its fuzz without considerable wear. The nap of all materials will wear off in time, leaving a smooth fabric. Flannel coats often become threadbare at points of friction, such as elbows, edges of pockets, along the front opening, and around buttonholes.

Worsted materials are generally completed with a clear finish showing the structure of the weave. The weave is distinct, as in serge or gabardine.

INTERLININGS IN COATS

Heavy winter coats should be interlined for warmth. Remember that a coat keeps you warm only because it helps to retain the heat of your body. Air is a poor conductor of heat, so the layers of air between the outer fabric and the interlining and between the interlining and inside lining help to hold the body heat. If the interlining is made of a fluffy woolen material which itself contains many tiny air spaces, then the fabric itself helps to retain the heat.

Many coats are interlined with a napped cotton fabric, such as cotton flannel. This interlining is inexpensive and best suited to mild climates. Some interlinings are made from lightweight woolen materials. These are warm, and they do not make the coat bulky. A new type of interlining is made from a chamoislike material which acts as a windbreaker and also helps to retain heat. Quilted wool interlining is very warm but makes a coat somewhat bulky.

When you buy a heavy coat ask about the interlining. If the outer fabric and lining are hemmed separately at the bottom of the garment you can look inside and examine the interlining. If this is not possible, look for labels and ask for information. Sometimes the salesperson will rip a place in the lining so that you can see the interlining. Remember that weight is not always an indication of warmth. A wool inter-

lining is lighter in weight, but is much warmer, than a cotton interlining.

SPECIAL FINISHES FOR SPECIAL PURPOSES

Some fabrics are given special finishes for special purposes. Wool fabrics may be given a special treatment to make them moth-resistant. Various chemical treatments are used for this purpose. Some methods of mothproofing are more successful than others, which means that some are really moth-proof and some are only moth resistant. The Federal Trade Commission does not approve of the term "mothproof" because it implies a permanent protection from moths. Some methods of moth-resistant treatment are removed by dry cleaning and laundering. If you buy a wool coat or suit labeled "mothproof" or "moth-resistant," try to find out whether there is a guarantee on the special finish used.

Many coat and suit fabrics are given special finishing treatments to make them waterproof or water-resistant. Your mackinaw, your raincoat, and your windbreaker probably are made from fabrics which have received special waterproofing and water-resistant finishes. Some of the trade names for these finishes are Aqua-sec, Aridex, Ban-dri, Cravanetting, Impregnole, Neva-wet, and Zelan. Various processes using rubber, oil, and lacquer compounds are used for these finishes. Some of these finishes are partially or entirely destroyed by dry cleaning and laundering. When you buy a waterproof or water-resistant garment, find out whether the finish will stand washing and dry cleaning. A light-colored raincoat soils quickly and should be washable to prevent the expense and inconvenience of frequent dry cleanings.

When the government buys raincoats, it makes careful tests to determine the efficiency of the waterproofing treatment. You can see how these tests are carried on in the illustration on the next page. Would it not be helpful to consumers if they could use similar tests!



Courtesy Photo Section, Philadelphia Quartermaster Depot

In this laboratory weather conditions may be reproduced to give the severest test to rainwear—heat and cold, strong driving winds and rains.

Only well-constructed garments can withstand these tests.

A SUMMARY OF POINTS ON FABRICS

Here are some questions that will summarize your study of wool fabrics for coats and suits. Try to find out these things when you shop for a wool coat or suit.

1. What is the fiber content of the fabric? What percentage of wool? What kind of wool? *Compare prices of different garments with fiber content in mind. Also read the label.*

2. Is the quality of wool good? Does it feel springy and full of life?

3. Is the yarn woolen or worsted? How do prices compare for garments made from woolen and from worsted fabrics?

4. Is the weave firm and even? Check both the outer fabric and the lining for firmness of weave and slippage.

5. If the fabric has a nap, does it rub off easily?

6. Is the fabric colorfast?

7. If the fabric is labeled waterproof, water-resistant, or mothproof is there any guarantee about the durability of the special finish?

THE WORKMANSHIP IN YOUR COAT OR SUIT

Good workmanship is just as important as good fabric in coats and suits. All steps in cutting and constructing the garment should be done carefully and accurately. Some of these processes you can judge for yourself as you inspect the garment. Other processes remain hidden from consumer inspection. However, if the workmanship which you can see is of good quality, you may feel fairly certain that all the workmanship is equally good.

Look for these points in judging workmanship on coats or suits. A study of the illustration on page 181 will help you to understand good workmanship.

1. Is the garment cut straight with the grain of the cloth? This is easy to judge with a garment made from striped or plaid material. With a garment made from plain material you can judge whether the fabric has been cut straight with the grain by careful examination of the threads. Look at the sleeves. Do the lengthwise threads run straight down from the high point of the shoulder as the arms hang at the sides? Do the lengthwise yarns in the front and back of the coat drop straight down from the shoulder to the bottom of the coat? Are the lengthwise yarns straight with the front openings of the coat?

Unless the garment is cut correctly with the grain of the fabric, it will not keep its shape. When garments of good quality are cut, only a few layers of cloth are piled together

and cut at once. For garments of poor quality deep layers of cloth are piled together and cut at the same time with the electric cutting knife. Naturally some of the layers slip, with the result that the garments are not straight with the grain of the fabric.

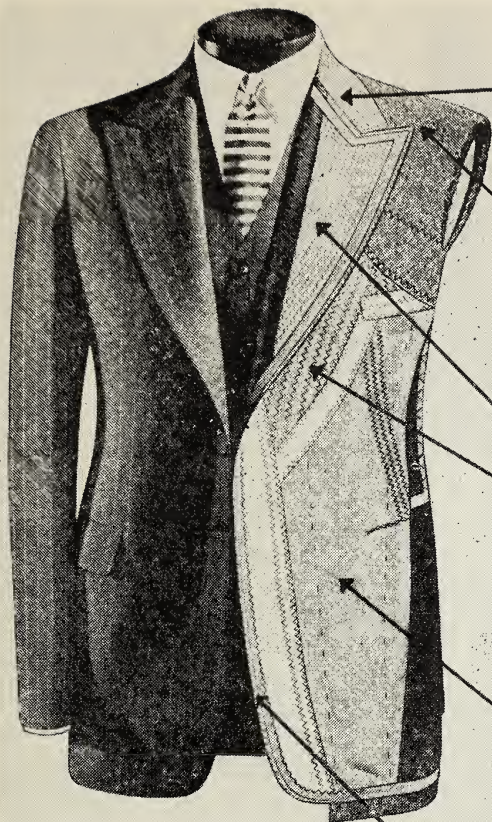
2. If the coat or suit is made from a fabric with striped, checked, or plaid pattern, are the parts well matched? Look at the seam down the middle of the back. Do the stripes, checks, or plaids match? A carefully matched pattern adds greatly to the appearance of the garment.

3. Are the seams generous, stitched evenly, and stayed with preshrunk tape? Seams should not be so narrow that they are in danger of pulling out. Generous seams also allow for slight enlargements. Seams should be evenly and strongly stitched with matching thread. Armholes, shoulder seams, necklines, bias seams and edges, and the lapel fronts on tailored suits and coats should be taped with preshrunk tape in order to prevent stretching. Test for taping by stretching an armhole. If the seam "gives" it has not been properly taped. Stretch the fold of a coat lapel to see whether it has been taped correctly.

4. Are all exposed seams bound? No raw edges should be left to fray and ravel.

5. Is the stiffening used in the collar and lapels of good quality? This applies only to boys' and men's coats or to girls' and women's coats made in tailored style. In tailored coats of good quality the lapel is not pressed flat in a fold but rolls back. In tailored coats of good quality, the stiffening is made with horsehairs glued to linen. In coats of poor quality the stiffening is only soft cotton cloth. Test the quality of stiffening by doubling over the corner of the coat lapel and by squeezing the roll of the lapel. The lapel will spring quickly back into shape and will not crease easily if the stiffening is of good quality.

6. Does the coat hang evenly? A well-made coat does not sag or hike up in spots. The two sides of the front opening are exactly even.



Collar Foundations

are made of special type superfine canvas to insure flexibility, smoothness, and longevity... stitched and padded for lasting security and perfect fit around the neck.

Shoulder Supports

are built of fine quality all-wool pads, covered by lightweight all-wool flannel felt. These are reinforced with superfine hymo and hundreds of fine stitches to give shoulders enduring shape.

Lapels and Chest

are made of extra fine hymo, a specially constructed resilient material woven from mohair, cotton and wool; stitched all over to give it life-long security and shape holding qualities.

Imported Linen Front

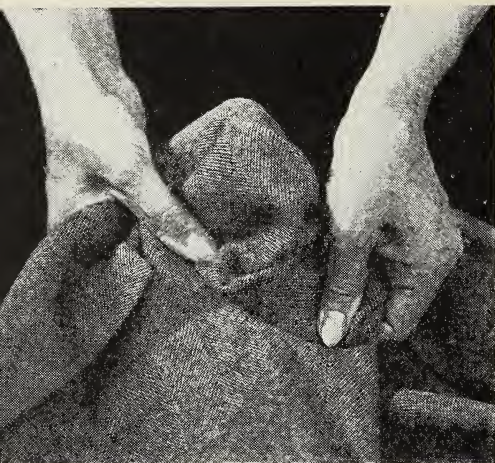
made of finest quality flax, closely woven and thoroughly pre-shrunk to insure a smart, smooth, unwrinkled appearance and adherence to original style lines.

Bound Edges

Fine pre-shrunk tape prevents edges from crinkling, and protects front against cockling and buckling.

Courtesy The Richman Brothers Company

Study of this picture in connection with the text will help you to understand the hidden qualities in a man's coat.



Courtesy U.S. Bureau of Human Nutrition and Home Economics

Test the armhole seam and the folded edge of the lapel to see that they have been firmly taped.

construction. As each seam or edge is made it is pressed. You cannot tell from inspection of the finished garment whether

7. Is the front lap wide enough for protection against cold? A man's or boy's overcoat and a girl's or woman's winter coat should be made with a wide enough lap of the fronts so that the wearer is well protected when walking.

8. Is the cut generous or skimpy? A well-cut coat is full enough so that the fabric does not draw tight over the shoulders or across the front. When you try a coat on, move your arms about to see if the coat is too tight over the shoulders and at the tops of the sleeves.

9. Are the fastenings strong and firm? Buttons should be sewed on with a long enough shank so that the cloth is not strained when the buttonhole is pulled over the button. The thicker the cloth, the longer the shank should be. Eyelet-end buttonholes are stronger than straight buttonholes. Loops are satisfactory fastenings for girls' and women's coats providing they are strong and well secured to the edge of the front opening.

10. Is the garment well pressed? Well-made coats and suits are pressed at each step of



Courtesy U.S. Bureau of Human Nutrition and Home Economics

A good coat is only partially lined. Exposed seams are neatly bound, and the finishing is neat and inconspicuous.

this has been done, but you can tell whether the garment looks well pressed. There should be no puckered seams or ripply hems. A garment that is pressed well during the process of construction will hold its shape permanently.

11. Is the lining of firm construction and properly fitted to the coat? The lining should be loose enough so that it does not draw the coat. Interlinings should be carefully cut and put in so that they do not draw or make bulges. Linings which extend to the bottom of a long coat should be left loose and hemmed separately. The bottom edge of the lining should be attached at the seams. Linings should be cut with generous seam allowances so as to prevent pulled and frayed seams. The linings in good coats are put in with small, closely spaced hand stitches. In lower-grade coats the lining is made separately and stitched into place by machine; the seams do not correspond to seams of the outer fabric; and the lining is not likely to fit smoothly.

Linings should be made with a deep pleat down the middle of the back. This allows plenty of "give" and prevents strain during any movement of the body, such as twisting or turning or reaching with the arms.

Boys' and men's suit coats are generally partially lined over the shoulders and down the fronts. This is not an indication of poor quality. A partially lined coat requires more labor than a completely lined coat because the exposed seams must be bound. Partially lined coats are more comfortable for indoor wear because they are not so heavy as completely lined coats. They are also likely to fit better.

12. Are the shoulders carefully padded? The shoulders in men's and boys' coats are generally padded to make them look square and broader than they really are. In suits of good quality the padding is not heavy, and it is flexible. Feel the padding in the coat shoulder to see if you can tell where the padding begins and whether it is too hard and stiff. In high-grade suits, you can hardly feel the spot where the padding begins. In low-grade coats, the shoulders are often over-

padded with hard, stiff material which gives the shoulders an unnatural appearance.

Feminine fashions sometimes show padded coat shoulders. These fashions purposely exaggerate or distort the shape of the shoulder. In masculine fashions, the padded shoulders are intended merely to create an effect of big, broad shoulders.

HOW DOES THE COAT FIT?

A good fit is important to the durability, comfort, and appearance of a coat or suit. Fortunately, there are no hidden values when judging fit. You can learn to judge all the points on the fit of a coat or suit for yourself.

1. The garment should be the right size. It might seem that anyone would naturally select the right size suit or coat, but such is not the fact. Learn to select the size according to feeling and appearance. Do not depend on sizes as marked by manufacturers because they may vary considerably. Size 16 in one coat may actually be two inches smaller than size 16 in another coat. Different manufacturers use different standards for sizes, and some manufacturers may skimp sizes in cutting. Learn to judge the size of a garment for yourself. Never buy a garment that is just a little tight, because strain will cause it to lose its shape and to wear out sooner than necessary. Besides, tight garments are not becoming. Never buy a garment that is too large and depend on cutting it down. Major alterations are often not satisfactory. Minor alterations, such as shortening or lengthening sleeves, skirts, or trouser legs, can be done very satisfactorily.

2. Does the coat hang well without wrinkles or folds, especially in the sleeves and back? The coat should fit smoothly.

3. Are there any tight places which will interfere with comfort? Notice the armholes especially. Can you move your arms freely?

4. Does the coat fit close around the back of the neck?

The collar should not stand out away from the back of the neck.

5. Is the width at the shoulder right? The end of the shoulder seam should just reach the tip of the shoulder.

IS IT ATTRACTIVE AND BECOMING?

Naturally everyone wants to wear clothing which is attractive and becoming. The study of design and color in clothing is very interesting, but in this chapter we can make only a few general points about good design in coats and suits.

1. Do not be a slave to fashion. Do not be impressed when a salesman tells you that the coat which you are considering is the "latest thing." If the style is becoming to *you*, then you can wear it with success. If the style is not becoming to you, there is sure to be another style which is becoming. This does not mean that you need to be dressed in old-fashioned styles. It means that you should choose the current style which is best suited to you.

2. Choose a color which will fit into your wardrobe. If you have a brown hat and suit, you will probably want a brown or tan coat.

YOUR WOOL COAT—FROM SHEEP TO SHOP

The journey of a wool fiber from the sheep's back to the retail shop where you buy your coats and suits is long and complicated. Our study of quality in fabric has shown us that many processes are required to transform wool fleece into fine fabric. The wool must be sorted, cleaned, scoured, carded or combed, spun, woven, finished, and dyed. All these steps require many processes and an enormous amount of modern machinery.

The price you pay for your coat must cover the cost of all these manufacturing processes. Quality of the fabric depends upon the skill and care with which these processes are carried out. If the manufacturer reduces his costs by skimping or cheapening the manufacturing process, the fabric will

be poorer in quality. Obviously, the consumer should not pay as much for fabric of low quality as for high-grade material. Since quality in fabrics is partly hidden, the consumer must depend upon the honesty of manufacturers to get good value for his money.

When the cloth is finished and ready to leave the mills, it is sold either to retail stores for yardgoods or to garment makers who will use it for ready-made clothing. Garment making in the United States is a billion-dollar industry. How surprised our Colonial ancestors would be to see our modern retail shops filled with ready-made clothing for men, women, and children! And how shocked we would be, suddenly to find our shops empty, and forced to make our own clothing, beginning with the raw fibers!

The garment industry is hardly one hundred years old, and at first it produced only men's clothing. The invention of the electric cutting knife and the electric power-driven sewing machine made it possible for manufacturers to produce ready-made clothing in large quantities at prices which people could afford to pay.

The organization of work in making men's clothing is quite different from that for women's clothing. A man's coat or suit is not made all in one shop. It may be cut in one shop, the seams in the vest stitched in another shop, the seams in the coat stitched in another shop, the collar in still another. Each shop specializes in stitching a single part of the vest, coat, and trousers; and these shops may be in different buildings and operated by different companies. Finally all the parts of the suit are sent to one shop where the garment is put together.

Some manufacturers of men's clothing have organized the making of men's coats and suits so that all the work is carried on in one factory. Each process in the construction of a garment is done in a special shop in the same factory.

Men's styles are set by the English. They do not change greatly from year to year. Yet there are more changes in men's styles than we realize. Compare pictures of men's



Courtesy The Richman Brothers Company

More than two hundred and fifty operations are used in the making of a man's suit. Shown here is a composite picture of a few of the processes.

clothing before the First World War with modern styles. You will find that several changes have taken place in the last twenty-five years.

Women's clothing is cut, stitched, and finished in the same factory. First, the design is made. This design is not only

sketched on paper but is made with the materials pinned together on a figure. Next, the design is sent to an operator who makes up the complete garment. This garment becomes a sample which is shown to buyers who order garments for their shops. Buyers may order only a few dresses from one design or they may order several dozen. Exclusive shops cannot sell many dresses of the same design because their customers do not like to see their clothes duplicated.

Before the Second World War designs for women's clothes were set in Paris. Now American designers are creating their own designs very successfully. Before the war, buyers made one or two trips to Paris every year to see the new creations of the great Parisian dressmakers. Sometimes they bought the right to reproduce a design and then had it copied by American garment makers.

The price you pay for a ready-made garment must cover the cost of the design. If only a few garments have been made from the design, the cost is certain to be greater than if a large number of garments have been made from the same design. You must pay for exclusiveness. Women's fashions change much more rapidly than men's fashions, and this increases the cost of women's clothing. There are also many more different styles for women's garments every year than for men. This also increases the cost of women's ready-made clothing. Each separate design adds to the price you pay for your clothing.

Another interesting comparison between men's and women's clothing is in the cost of alterations. In men's clothes, the price the consumer pays includes all necessary alterations. In women's clothes, the price includes *no* alterations. Moreover, the skill required for the alteration of a man's suit is likely to be greater than that required for the alteration of a woman's suit. Alterations on a man's coat may include enlarging the armholes and taking up the shoulder seams, with no extra charge made to the consumer. Alterations on a woman's coat may include only turning up the hem, with a charge made of two or three dollars to the consumer.

SOME FINAL POINTS TO REMEMBER

Here are some final reminders of what to look for when you buy a coat or suit.

1. Is the outer fabric of good quality?
2. Is the lining fabric of good quality?
3. Is the workmanship of good quality?
4. Does the garment fit well without major alterations?
5. Is the garment attractive in appearance?
6. Is it the right type of garment to suit your needs?
7. Is the price reasonable for the quality of the garment?

SUGGESTIONS FOR DISCUSSIONS AND ACTIVITIES

1. Collect several samples of wool coat and suit materials.
 - a. Test for slippage.
 - b. Examine for closeness and evenness of weave. Try counting the threads in warp and filling.
 - c. Examine the finish. Is it napped or smooth?
 - d. Untwist a yarn, studying the amount of twist.
 - e. Study the fibers for length. Compare woolen and worsted fibers. If possible examine them under a microscope.
2. Arrange a day when every member of the class will bring a coat to class for study. Study the coats for workmanship according to the points given in this chapter.
3. Bring some samples of fabric which are part cotton. Ask your teacher to test the samples with lye. Ask your teacher also to demonstrate the difference in the way in which wool and cotton burn.

YOUR CONSUMER INVESTIGATIONS

1. Select a certain type of suit or coat on which you will collect prices. If possible select a garment for study which you really expect to buy. Collect data for at least three different garments:
 - a. Price
 - b. Fiber used for fabric
 - c. Quality of weave and finish (your judgment)
 - d. Quality of workmanship (your judgment)
 - e. General appearance (your judgment)
2. Report any instances of dissatisfaction with a coat or suit because of lack of durability. Consider the facts of the case and decide who should be held responsible.

CLOTHES FROM COTTON AND RAYON

OUR clothing includes many types of garments made from cotton and rayon fibers. Shirts, dresses, overalls, playsuits, blouses, underwear, and pajamas are but a few of them. We cannot study quality in each of these garments separately, but a study of quality in a few types will be helpful in the selection of similar garments.

Try to answer the following quiz questions to test your knowledge of cotton and rayon clothes. (*Do not write in the book.*)

CONSUMER QUIZ

1. Which two of the names below refer to fabrics used in men's and boys' shirts?
Madras Marquisette Oxford Cambridge Frieze Organdy
2. In a shirt of good quality the sleeve is cut in one piece. True or false?
3. How are rayon fibers prepared for use as spun rayon?
4. Which of the following terms refers to shrinkage of a fabric?
Parkerized Sanforized Carbolized Rubberized
5. The three types of rayon now made in the United States are _____, _____, and _____.
6. The lustrous or dull finish in rayon yarns is produced before the filaments are formed. True or false?
7. Why do manufacturers and retailers label all rayon products as to rayon content?

8. Give 5 points for which you will check a dress before buying it.

SELECTION OF A COTTON SHIRT

Good value in a cotton shirt depends upon the same general points which we have discussed with relation to a wool coat. Durability, comfort, and good appearance are important qualities for all everyday garments, and these qualities depend upon the fabric, workmanship, fit, and design.

CONSIDER THE FABRIC

When you buy a cotton shirt, look first at the material from which it is made. Learn to know the different types of cotton materials commonly used in men's shirts. Secure samples of the fabrics described below and examine them as you study the following descriptions.

Broadcloth is used for a great many men's shirts. It is made with the plain weave and has a slight crosswise rib. These ribs are produced by using small warp yarns and larger filling yarns. You must look closely at the fabric to see the ribs. Good broadcloth is made from combed yarns which have been mercerized. You will remember from your study of cotton hosiery that combed and mercerized yarns produce a smooth, lustrous finish. Broadcloth may be made from either one-ply or two-ply yarns. Advertisements sometimes describe broadcloth shirts as "1 x 2" which means that one set of yarns is made from one-ply yarn and the other set is made of two-ply yarns. Broadcloth may be "1 x 1" which is all one-ply yarn, or "2 x 2" which is all two-ply yarn. The two-ply yarn makes a stronger and firmer fabric.

Good broadcloth has a yarn count of about 130 yarns in the warp and 56 yarns in the filling. Sometimes the yarn count is expressed in one number for both sets of yarns, for example, we might say that the count is 186. A count as low as 100 by 50 does not make a durable fabric. Good broadcloth requires a pull of about 74 pounds in the warp and 24 pounds in the filling to tear it apart.



PACIFIC MANCHESTER CAMBRIC
Tested and Certified
FOR
COLOR FASTNESS
as meeting Standard Tests
(Standard test - No. 3): The colors in
CS 59-41 issued by
National Bureau of Standards
Washington, D. C.

ALL COTTON
SATISFACTORY-TO WASHING
(Standard test - No. 3): The colors in
this fabric are fast to washing under nor-
mal home or commercial laundering con-
ditions, without boiling or the use of
bleaching compounds. As no colors will
stand repeated drying in the sun, do not
dry in direct sunlight. No other special
precautions necessary.

FAIR-TO LIGHT (Standard test - No. 1):
The colors in this fabric will resist fading
in normal wearing apparel use. Not rec-
ommended for excessive use in the sun.
After washing, do not dry in direct sun-
light.

CROCKING (Standard test-class B):
Some brilliant or heavy shades are sus-
ceptible to rubbing off (crocking). Contin-
ual wear without laundering may produce a
slight discoloration which, however, does
not stain and is readily removed in each
washing.

WRITE for FREE Booklet on "How to
Get More Wear Hours from Fabric"
Pacific Mills, 214 Church St.,
New York

SAVE THIS FACTAG

3762

Bamberger's Tested Summer Gabardine

CONSTRUCTION

FABRIC DETAILS

YARNS—Warp—2 ply combed cotton 124 threads to the inch.

Filling—1 ply combed cotton 74 threads to the inch.

A durable, closely woven construction.

WEIGHT—6.25 ozs. per square yard. A medium weight gabardine fabric.

GARMENT DETAILS

Seams are interlocked with double stitching for additional strength and a man-tailored appearance.

Lastex yarn inserts are double stitched and guaranteed for the life of the garment.

Lastex yarn inserts and 2 short belts allow for a 2 inch adjustment on each side of the garment.

SERVICEABILITY

BREAKING STRENGTH

Warp—110 pounds. Filling—60 pounds. A strong durable fabric.

COLOR PERSISTENCE

WASHABILITY—Fabric does not fade or stain. Retains its luster and fine hand after laundering. Washable lastex yarn inserts are guaranteed not to lose their elasticity during the life of the garment.

SUNLIGHT—Aqua and navy colors offer good resistance to sunlight. Red, due to the nature of the dye, is only fair in this respect.

SHRINKAGE—Sanforized shrunk. 1% maximum shrinkage. Will not shrink out of fit.

SUGGESTIONS FOR CARE

Garment may be washed at home or sent to a commercial laundry. If laundered at home, make up rich hot suds using Bamberger's Flakes or Soap Chips or any other good soap. Rinse in clear tepid water. Remove excess moisture preferably without wringing or twisting. Iron while slightly damp using a moderately hot iron.

HEADQUARTERS FOR YOUNG NEW JERSEY

L. BAMBERGER & CO.



F 7596



TESTED & CERTIFIED
FOR COLOR FASTNESS
as meeting CS 59-41 Standard Tests issued by
National Bureau of Standards, Washington, D. C.

ALL COTTON
SATISFACTORY-TO WASHING (Standard test - No. 3):
This fabric is fast to washing under normal com-
mercial or home laundering conditions, without
boiling or the use of bleaching compounds. As
no colors will stand repeated drying in the sun, do
not dry in direct sunlight. No other special pre-
cautions necessary.

FAIR-TO LIGHT (Standard test - No. 1): This fabric
will resist fading in normal wearing apparel use.
Not recommended for excessive use in the sun.
After washing, do not dry in direct sunlight.

CROCKING (Standard test-class B): Some brilliant or
heavy shades are susceptible to rubbing off (crock-
ing). Continual wear without laundering may
produce a slight discoloration which, however, does
not stain and is readily removed in each washing.

ENDURING CRINKLE: This fabric requires no iron-
ing. For better appearance this garment may be
shaken out when damp and pressed with cold iron
at seams only.

WRITE for FREE booklet on "How to
Conserve Fabrics for Wearing Use"
Pacific Mills, 214 Church St.,
New York



This Garment is made of a
TESTED AND CERTIFIED
Pacific Factag
FABRIC
PACIFIC MAYFAIR
BUY WAR BONDS
AND STAMPS
TODAY

Courtesy Pacific Mills and L. Bamberger and Company

These informative labels are helpful to consumers who want to know about quality in cotton fabrics.

When you buy a broadcloth shirt always ask the salesman for the ply, yarn count, and breaking strength. Often he will not know the answers, but the more frequently consumers ask for these facts, the sooner manufacturers and retailers will tell consumers what they want to know.

Madras is another material commonly used for shirts. It is made with lengthwise stripes, either white or colored. The weave is plain and the stripes are made with heavier yarns. Always select madras in which these stripes are smooth and flat because the cordlike stripes make ironing difficult. Good quality madras is durable, but the poor qualities are harsh and coarse. Madras should have a yarn count of 117 or better in the warp and 75 or better in the filling. Breaking strength should be about the same as for broadcloth.

Chambray is another fabric used for many shirts. It is made with the plain weave. The warp threads are colored and the filling threads are white. The mixture of white and colored threads produces the characteristic effect of chambray. The thread count is about equal in both directions, and the tensile strength is also about equal. Lightweight chambray is suitable for business shirts, and heavyweight for work shirts.

Oxford cloth is another type of shirting used especially for sport shirts. It is made with the basket weave, which is a variation of the plain weave. Yarns are woven in pairs both crosswise and lengthwise. This produces a rough, heavy fabric with a soft, dull finish. It is strong and durable. Percalé, covert, and other materials are used for shirts. Always examine the fabric first when you buy a shirt. Decide what type will suit you best and choose accordingly. Remember that durability of a shirt depends greatly upon the quality of the fabric. Try to get as much information as possible about the quality of the fabric from the salesman and from labels.

WILL THE SHIRT SHRINK?

Shirts of good quality do not shrink. Your shirt should still fit after it has been laundered. But how can you be sure

How it is made:

CLOTH DETAILS

Cloth count (finished)

42 wales per inch

22 courses per inch

Weight (finished)

7.4 ozs. per sq. yd.

GARMENT DETAILS

Seams specially sewn for strength.

Sizes precisely cut with ample fullness.

Workmanship carefully executed.

What it is made of:

Fiber content—Combed Cotton Knit

What it will do:

Bursting strength

134 pounds

Washability

Good

Shrinkage

Not more than 2% with shaping

Absorption

370%

This is a strong, washable fabric with a high percentage of water absorption.

How to care for it:

TO WASH

Dissolve thoroughly any good grade of soap in hot water. Use enough soap to produce rich suds. **DO NOT BOIL.** Water just starting to steam (160° F.) is sufficiently hot. Rub only as much as necessary to clean. Rinse thoroughly in clear, hot water.

TO DRY AND IRON

Dry flat and shape to size while slightly damp. If ironing is desired, dampen slightly, gently shape to size and press with a moderately hot iron.

CAUTIONS

Avoid undue twisting or wringing. Always shape to size for proper fit.

SPECIFICATIONS STANDARD

KS-350



KASHEEN SHIRT

Manufactured according to specifications approved by Kaufmann Scientists.

Fabric: Long durability assured by this firmly woven broadcloth of full 144x76 thread count and high tensile strength. Mercerized to give lustrous appearance. Sanforized, shrinkage is 1% (CS 39-43).

Construction: Hand cut to accurate size, providing comfortable fit. Tailored to government standard dimensions.

Care: Wash in rich, hot suds of a good laundry soap (such as Sollo Chips) and rinse well in hot water. Excessive use of bleaches should be avoided. Dry air shirts in the open, if possible.

KAUFMANN'S

Parkleigh Prep Shirt

Made to Specifications Approved by
GIMBELS BUREAU OF STANDARDS

HOW IT WILL WEAR

- Fabrics of good strength for durability.
- Generally full cut to dimensional standards for comfort.
- Those shirts which are Sanforized are so marked and show residual shrinkage of less than 1%.
- Good color fastness to laundering.
- Pleated at cuffs for attractive finish.

HOW TO MAKE IT LAST LONGER

- Launder in the regular way—no special handling is necessary. Avoid anything which tends to weaken any cotton fabrics, such as strong soaps, excessive bleaching and too hot an iron.

WHAT IT IS MADE OF

- Broadcloths with average finished count of approximately 152 x 80.
- Colored fabrics with thread count 94 x 42 to 130 x 64 (average).

A Complete Testing Report is Available

Courtesy Gimbel Brothers and Kaufmann's, Pittsburgh

These labels tell the consumer who buys a shirt what he wants to know.

to select a shirt that will not shrink? It is impossible to tell by looking at a shirt whether it will shrink. This quality is completely hidden from the most searching eye.

The only satisfactory help to the consumer in this problem is the use of labels. In 1938 the Federal Trade Commission issued a set of trade-practice rules dealing with labels guaranteeing shrinkage of cotton goods. These rules forbid the use of such terms as "shrinkproof," "full shrunk," and "nonshrinkable." The approved terms are "preshrunk" and "shrunk." These terms must be used with a statement telling how much more the goods will shrink. For example, you may find a label on a shirt which says, "Preshrunk—residual shrinkage 1%." This means that the fabric has been shrunk but that it will shrink more. The additional shrinkage will not be more than 1 per cent which is not enough to affect the fit and comfort of a shirt. Another label may state that the residual shrinkage is not more than 2 per cent. More than 2 per cent shrinkage is not desirable because it would affect the size and fit of a garment so much that the garment might be unwearable.

Some shrinkage labels use the term "Sanforized." This is a trade name for a certain mechanical process for shrinking cotton. You will find labels which read "Sanforized—residual shrinkage less than 1%."

The FTC trade-practice rules for shrinkage labels undoubtedly protect the consumer when he buys labeled goods. Unfortunately, the rules do not require a manufacturer to use shrinkage labels unless he wishes to do so. Naturally the manufacturers who produce good-quality preshrunk materials do label their goods. Unless the garment is labeled with the approved shrinkage label, you may feel certain that it will shrink excessively. *Look for the shrinkage label.*

WHEN THE ARMY BUYS A SHIRT

When the army buys fabrics for coats, trousers, shirts, or other garments, the fabrics are carefully tested for shrinkage.

A large piece of the fabric is taken for a sample and measured exactly. Next, the sample is given several washings. Then it is measured again, and the measurements are compared with the measurements taken before laundering.

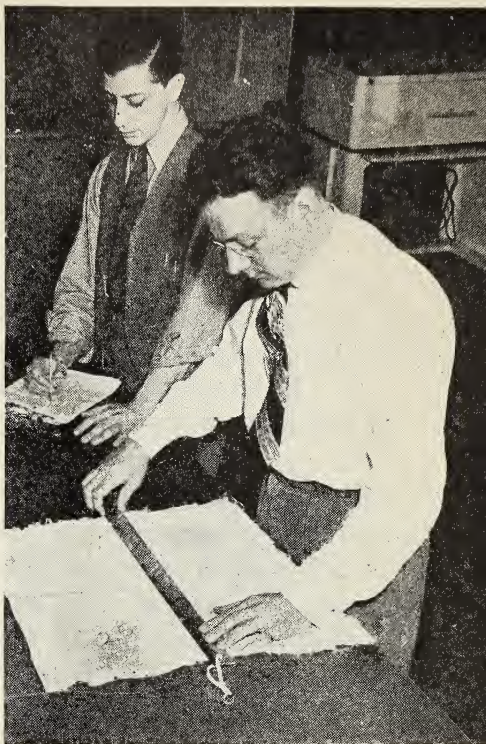
HOW IS THE SHIRT MADE?

When you are selecting a shirt there are several points in construction and workmanship which you should check.

1. Is the back well cut? The back should be full enough so that arm action does not cause undue strain. A generous amount of fullness should be eased into the yoke. This will increase durability and comfort. The fullness should be added over each shoulder and not in one little bunch in the center of the back. The shoulders, not the center of the back, need this extra fullness. Either gathers or little pleats are satisfactory.

2. Is the sleeve well cut? The thread of the cloth should go straight with the top fold of the sleeve. Shirts of good quality have sleeves cut in one piece. A pieced sleeve may wear just as well, but is not so easy to iron and does not look so well.

3. Are the cuffs well made? The opening at the cuff should be deep enough so that the cuff can be spread out flat for ironing. The fullness should be well distributed around



Courtesy Photo Section, Philadelphia Quartermaster Depot

When the army buys fabrics, samples are subjected to several launderings and then carefully checked for shrinkage. How helpful for consumers if fabrics for civilian use were similarly tested!

the cuff and not bunched in one or two places. Uneven fullness does not look well and makes the garment difficult to iron. The fullness may be either gathered or pleated into the cuff. Pleats are easier to iron.

4. Is the collar well made? The points of the collar should be sharp and flat. Thick, bunched places in the collar cause it to wear out quickly from the extra pressure of the iron needed to get the collar flat. In good-quality shirts there are several rows of stitching inside the neckband. This makes the neckband firmer and prevents crushing down.

5. Is the collar "fused"? A fused collar has been processed to give it a permanent starched appearance. Such a collar does not require starching when it is laundered. Some fused collars give good service, but others lose their stiffness and wear out quickly. You cannot tell by looking at a fused collar whether it will give good service or not. Always ask whether the collar will wear as long as the rest of the shirt.

6. Are the seams well made? Examine the shirt for quality of workmanship in the seams. The stitching should be straight and even. There should not be any knots or loose ends. On business shirts there should be 18 to 20 stitches to the inch; on work shirts 12 to 16 stitches to the inch. Seams should be turned evenly. Good seams do not pucker when the shirt is laundered.

7. Are the buttons and buttonholes of good quality? Buttons on business shirts should be smooth, lustrous pearl of even thickness. Good shirt buttons generally have four holes. Shirts of poor quality often have buttons made from compressed paper or plastics. These buttons are not satisfactory in the laundering process because they soften and pull off the threads very easily.

Buttonholes should be even and firmly worked. Threads should be close together with no ravelings or loose threads.

SELECT THE RIGHT SIZE

Men's shirts are sold according to neck size and sleeve length. A shirt marked 15-33 means that the neck size is 15

inches and the sleeve length is 33 inches. The measurement for the sleeve length is taken from the middle of the yoke in the back to the bottom of the cuff. The best way to get the correct sleeve length is to measure an old shirt. Spread it out flat and measure from the middle of the back to the bottom of the cuff.

Boys' shirts are sold according to age in even numbers. A shirt may be marked 10, 12, 14, and so on up to 20 or 22. This is not a very satisfactory method of sizing because a boy's age very seldom corresponds to the size shirt which he needs. All 14-year-old boys are not the same size. Manufacturers merely decide for themselves how large a 14-year-old boy's shirt should be.

It is important to buy the right size because a shirt that fits properly will wear longer than one that is too small. The right size shirt is also more comfortable. If the sleeves are too short, they pull and may cause the shirt to tear at the shoulder seam. If the neck is too small the shirt is uncomfortable and will strain the fabric below the neckband. If the shoulders are too narrow, the fabric will tear near the shoulder seams.

CHOOSE THE RIGHT DESIGN

Styles in boys' and men's shirts are fairly well standardized, yet there are several variations in design. Learn to choose the type which is most comfortable and becoming. Collars are made in different heights to fit different kinds of necks. If you have a short neck, choose a low collar. It will be more comfortable and will wear longer than a high-necked collar. Collars come with different-shaped points. Some are long and pointed, others short and wide. Choose the style which is most becoming to you. Generally the long pointed tabs are becoming to round and square faces; and the short, wide tabs are becoming to long or oval faces.

Choose colors and patterns that are pleasing. Remember your shirt is a background for your tie. Loud colors and bold

patterns do not make good backgrounds. Remember, too, that you will appear better dressed if the color of your shirt harmonizes with the colors of your tie and suit. The colors need not match, but they should blend into a pleasing whole.

POINTS TO CHECK WHEN SELECTING A SHIRT

Here is a summary of the qualities to look for when you are selecting a shirt. Some of these qualities are hidden from the eye and you must depend upon the labels and the information supplied by the salesman. Other qualities you can judge for yourself. However, some of these qualities will remain hidden unless you ask to have the shirt unpinned and unfolded so that you can examine it. The salesman should be willing to let you see how the sleeves, cuffs, and yoke are made, but you cannot examine them unless the shirt is unfolded. A considerate shopper will not ask to have a large number of shirts unfolded for inspection.

1. Is the fabric firm and smooth with a high yarn count?
2. Does the shirt have a satisfactory shrinkage label?
3. Is the shirt full cut?
4. Is the workmanship good?
5. Is the size right?
6. Is the style becoming?

CHOOSING A RAYON DRESS

The first consideration in the selection of any garment is the fabric. Durability, comfort, and appearance are all affected by fabric. Rayon is the second most important textile fiber in the United States, only cotton being used more extensively. When rayon was first used in fabrics it was known as "fiber silk," "art silk," and "artificial silk." This early rayon was not pleasing. Materials made from it were shiny, harsh, and not at all durable. It was considered a cheap substitute for silk.

Rayon is now considered an important fiber because of its own special characteristics and not because it is an imitation

of silk. It is a basic textile fiber. Fabrics made from rayon today are very different from the rayon fabrics of thirty years ago. They are made with varying types of finishes—lustrous, semilustrous, and dull. Many of the modern rayon fabrics are very beautiful. They are used extensively for every type of garment. Certainly consumers should learn to know rayons and to judge them for quality.

TYPES OF RAYONS

All rayon is produced by a chemical treatment of cellulose. The definition for rayon as given in the trade-practice rules of the FTC says: "The word rayon is the generic term for manufactured textile fiber or yarn produced chemically from cellulose or with cellulose base. . . ."

Cellulose used for rayon is obtained from cotton linters or from sprucewood. The manufacturing of all rayon includes three general steps.

1. The cellulose is changed into liquid form. This is accomplished by different methods for different types of rayon.

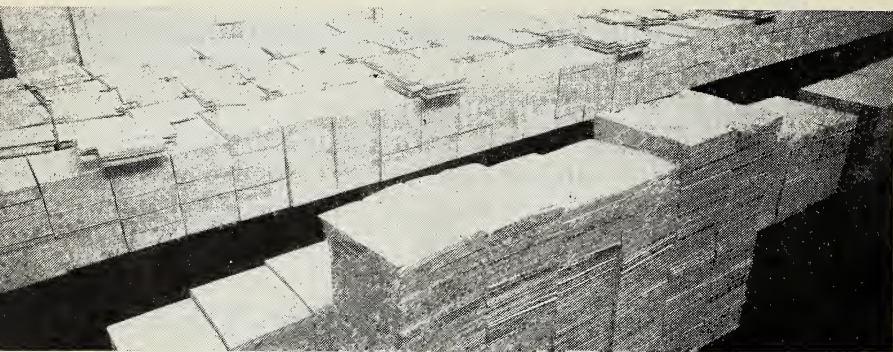
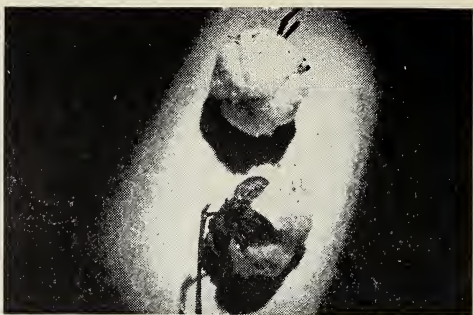
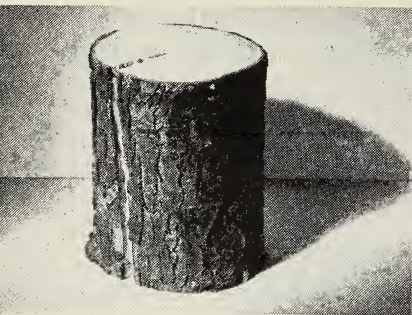
2. The liquid is drawn out into very fine streams. This is done by forcing the liquid through a spinneret which has tiny holes hardly visible to the naked eye.

3. The liquid streams which have been forced through the tiny holes of the spinneret are changed into solid filaments and combined into yarn.

The details of the rayon manufacturing process are highly technical. It is not necessary for the consumer to understand these technical processes, but she should understand the differences in use for the different kinds of rayon.

There are three types of rayon produced in the United States at the present time.

1. Viscose rayon is the strongest of the three rayon yarns when dry, but it is the weakest of the three when wet. All rayon yarns are much weaker when wet. This means that all rayons must be carefully handled in laundering and not sub-

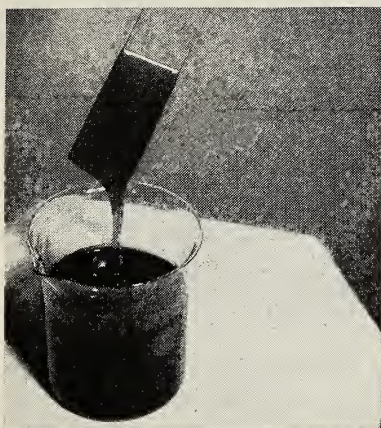
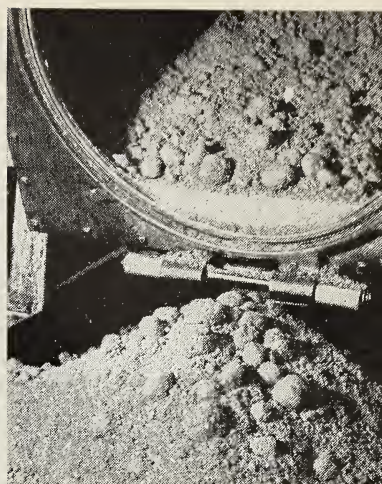
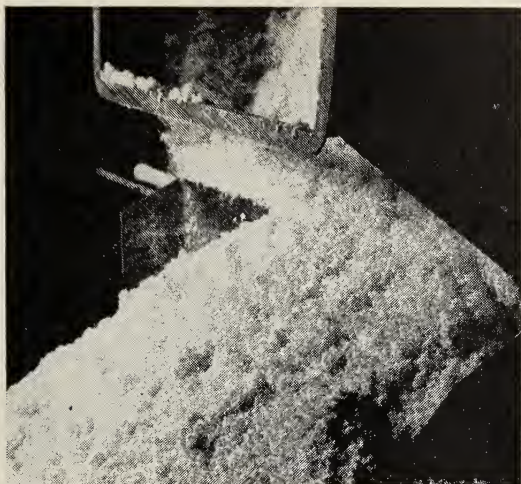


Courtesy American Viscose Corporation

Top: Segment of Wood and Cotton Pods. Rayon manufacture starts in the forest or cotton field. Wood pulp and cotton are sources of pure cellulose from which rayon is made. The cotton cellulose, as a matter of economy, comes from linters, the short-length fibers or fuzz left on the cotton seed. *Bottom:* Pure cellulose sheets. The raw stock of wood or cotton is "cooked" chemically, washed, bleached, and pressed into large sheets similar to blotting paper. These sheets are steeped in caustic soda which mercerizes and further refines the cellulose. In the pictures on the next two pages see the steps in completing the process of making rayon thread from wood pulp or cotton.

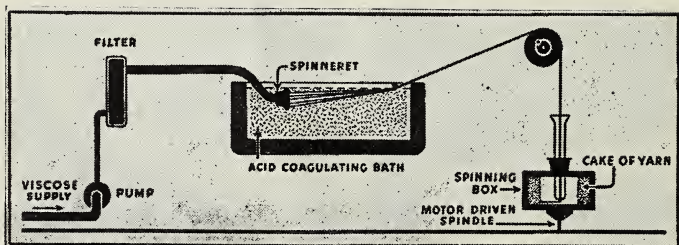
jected to strain. Since viscose rayon is especially weak when wet, it must be handled with great care. Some of the brand names of viscose rayon are "Crown," "Delray," DuPont," "Spun-lo," and "Chardonize."

2. *Acetate rayon* ranks second in strength when dry, but it is very weak when wet. It is also very sensitive to heat, and it may actually melt under an iron which is too hot. It should be pressed only with a warm iron. Acetate rayon is



Courtesy American Viscose Corporation

Top left: Alkali and Cellulose. The cellulose sheets are steeped in a solution of caustic soda to a crumb-like state. These crumbs, called alkali cellulose, are aged in steel cans in a room where the temperature and humidity are carefully controlled. *Top right:* Cellulose Xanthate. The carbon disulphide is mixed with the crumbs in a revolving churn. They turn from white to yellow to orange, and are known as cellulose xanthate. *Bottom left:* Viscose Solution. These orange crumbs are combined with a dilute caustic solution in a mixer. They gradually dissolve into a liquid called viscose which in appearance resembles honey. The viscose liquid is filtered and aged ready for spinning. *Bottom right:* The Spinneret. The spinneret is a small thimble-shaped nozzle pierced with many tiny holes. The viscose is forced through the spinneret into an acid bath which hardens each tiny stream of liquid into a solid filament.



Courtesy American Viscose Company

Top left: Cake of Yarn from Spinning Machine. The thread with many filaments is wound into a "cake" in the spinning box after it leaves the acid bath. The cakes are then treated, bleached, washed and dried. Some cakes are wound into cones, while others are reeled into skeins. The finished yarn in cakes, on cones or in skeins, is then sent to the weaving or knitting mills. *Top right:* Winding Rayon Yarn from Cakes to Cones.

Bottom: Diagram of Spinning Operation.

also very sensitive to acetone and to ether. Acetone is an ingredient of many nail polish removers. A drop of your nail polish remover on your acetate rayon dress will dissolve the fabric. Cleaning fluids containing ether may ruin an acetate rayon garment. When you send an acetate rayon dress to the dry cleaner, you should warn him that the fabric is an acetate.

Brand names for acetate rayons are "Teca," "Celanese," "Crown Seraceta," and DuPont's "Acele."

3. Cupramonium rayon is the strongest of the three rayon yarns when wet. This is a hint for the selection of your rayon bathing suit.

Bemberg is a well-known trade name for cupramonium rayon. This type of rayon can be spun into very fine yarns, which are used to make sheer materials.

All rayons should be handled gently in laundering. Rayon fabrics should not be wrung, twisted, or scrubbed. Nor should they be soaked for a long time.

TEST YOUR OWN RAYONS

Rayons should be labeled to indicate the type which has been used. If there is no label on the fabric, you may be able to find out for yourself what type of rayon was used. If you can snip a small piece of material from a seam you can use some simple tests to distinguish between acetate and the other two rayons.

1. The burning test. Acetate rayon burns slowly, melting and puckering along the edge. A hard, black ash is left. Viscose and cupramonium rayons burn quickly, like paper, leaving a powdery ash.

2. The acetone test. Drop a few drops of acetone on the samples. Acetate rayon will dissolve where touched by the acetone.

Consumers should know what type of rayon they are buying, not because one type is considered better in quality than another, but because each type has special characteristics. Remember that acetate rayons require special handling in pressing and dry cleaning. Viscose rayon is very weak when wet. Bemberg fabrics are very soft and fine, due to a special process in manufacturing the filaments.

QUALITIES IN RAYON FABRICS

Rayon fabrics, like fabrics made from other fibers, vary in quality. Some rayon fabrics wear very well, and others may

wear out very quickly. Wearing quality in rayon depends upon the weight of the yarn, the firmness of the weave, and the quality of the finish.

A very fine, sheer fabric is never so durable as a heavy fabric. Filaments of rayon are produced in various weights—some are finer than the silk fiber from the silkworm and others are coarser than horse hair. The weight of these filaments is expressed in deniers. (See page 140.) Varying numbers of filaments are twisted together to produce yarns. As few as ten filaments or as many as 100 filaments may be combined to make yarn. Try untwisting some rayon yarns and see if you can count the number of filaments.

Rayon fabrics of good quality are made with a firm, close weave. Try the slippage test on the rayon fabrics. If the rayon fabric stands this test well, and if the garment seams are generous, the rayon fabric will not pull at the seams.

Dyeing, printing, and finishing a rayon fabric add greatly to its beauty. However, these processes will not improve the quality of yarn or weave. A loose, stretchy weave may be partially concealed by the finishing process, but the durability of the fabric will not be improved. Permanent dyes are essential to good quality, and the consumer has a right to expect colorfast fabrics. There are a great many different kinds of dyes used in the textile industry today. The consumer cannot tell by looking at a colored fabric what kind of dye was used. Even if he could tell what kind of dye was used, he probably could not tell whether it was colorfast. The best aid to the consumer in this matter is the manufacturer's label. It is hardly possible to test a ready-made garment for colorfastness. Often it is impracticable to try to test yardgoods for colorfastness, because no more material may be left in the store by the time a sample has been tested. Always look for the colorfast guarantee.

KINDS OF RAYON FABRICS

Rayon fabrics are produced in great variety. Some of the variations are produced by the luster which is given to the

yarns. There are brilliant lustrous yarns, semilustrous yarns, and completely dull yarns. These different finishes are given to the rayon by chemical treatment before the filaments are formed. The degree of luster is permanent.

Other variations in the rayon fabrics are produced by the length of the rayon filament. The length of the filaments as drawn from the spinneret is very great. Smooth yarns, which are thousands of feet long, are made by twisting these filaments together. Naturally, the fabrics made from such yarns are smooth-surfaced.

Spun rayon has made possible the soft and fuzzy-surfaced fabrics. The long, continuous rayon fibers are cut into short, uniform lengths. Then the short fibers are spun into yarns in the same way that wool and cotton fibers are spun. Fabrics made from these spun rayon yarns have a distinctive soft and "wooly" feel. Spun rayon is used to produce such fabrics as "Spun Rayon Flannel" and "Spun Rayon Challis."

Frequently, spun rayon is combined with other fibers. Very good fabrics are made with part rayon content, but the consumer should know when rayon is combined with another fiber. A fabric which looks and feels like wool but is really part rayon should be so labeled. Again, labels are the only help for the consumer.

TRADE PRACTICE RULES FOR THE RAYON INDUSTRY

The Federal Trade Commission has established trade-practice rules for the rayon industry. These rules require that all fabrics made from rayon shall be labeled. The label must include the word rayon. If a manufacturer wishes, he may label his product "acetate rayon" or "viscose rayon," but the term rayon must be included. This rule applies to all articles made of rayon fabrics.

When a fabric is made from a combination of rayon and other fibers, the label must name the fibers. A fabric may be labeled "rayon and wool" or "cotton and rayon." The fiber which is present in the larger amount must be named first on

the label. The manufacturer is not required to give the percentage of rayon fiber present unless he wishes to do so.

When rayon is used to make a standard fabric usually made from another fiber—such as taffeta or satin, which are generally made from silk—the label may include the word taffeta or satin, but it must also include the word rayon. Thus, a label may read “rayon taffeta,” “rayon satin,” or “rayon flannel.”

LABELS ARE IMPORTANT

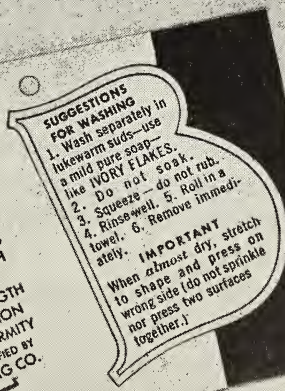
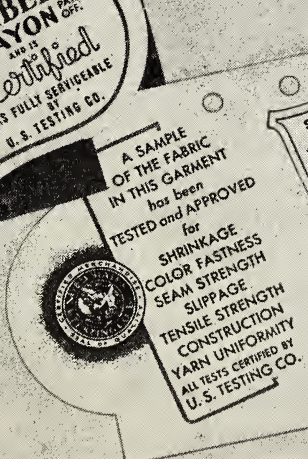
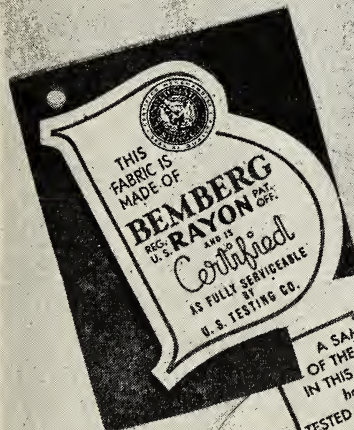
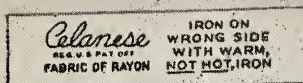
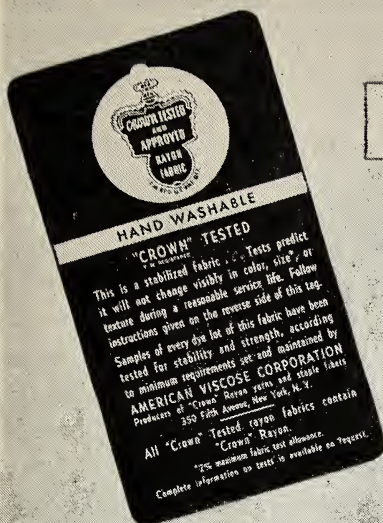
As you study the consumer problem you will become more and more convinced that labeling is tremendously important. *Truthful and informative labeling is first aid to the consumer.*

WHAT SIZE DRESS?

Dresses are made in girls' sizes, junior-miss sizes, misses' sizes, and women's sizes. Unfortunately, there is no uniform standard for any of these sizes. Girls' sizes are marked by ages, but few girls can wear dresses marked with their own ages. Not all dresses marked for the same age are made to the same measurements. A 12-year size by one manufacturer may measure much smaller than a 12-year size by another manufacturer.

There is a similar lack of uniformity in the junior-miss, misses', and women's sizes. The only way to find out whether a dress fits is to try it on. Measuring the length of the dress and the width of the shoulders by holding it up to your body is not a satisfactory way of finding out whether a dress will fit.

Junior-miss sizes and misses' sizes are also marked in terms of ages. Each age is supposed to correspond to a certain bust measure, as shown in the table below. However, dresses marked for size according to this system are likely to vary. For example, a dress marked 13 by one manufacturer may be



Courtesy American Viscose Corporation, Celanese Corporation of America, and American Bemberg Corporation

Informative labels for buyers of rayon.

larger or smaller than a dress marked 13 by another manufacturer.

JUNIOR-MISS SIZES

Age	11	13	15	17
Bust measurement	29	31	33	35

MISSSES SIZES

Age	12	14	16	18	20
Bust measurement	30	32	34	36	38

Women's sizes come marked in terms of bust measurement only. This is not satisfactory for many women because two women having the same bust measurement may vary considerably in other measurements. Some manufacturers make dresses especially for tall women and for short women. Manufacturers of men's clothing make better allowances for variations in measurements. Their sizes include "slims" and "stouts," as well as the regular sizes.

CHILDREN'S CLOTHING SIZES UNSTANDARDIZED

The lack of standardization in sizes of clothing for children creates a troublesome problem for consumers, merchants, and manufacturers. Parents have difficulty in getting the right sizes without returning and exchanging many garments. Stores find it expensive because of the numerous returns and exchanges. Alterations are a nuisance to the mother who makes them herself, and expensive for the mother who pays to have them made.

Because of this lack of standardization of sizes in children's clothing, the U.S. Bureau of Home Economics undertook a project which should lead to a better system. With the assistance of certain other agencies, the Bureau of Home Economics took measurements of more than 147,000 children between 4 and 17 years of age. Thirty-six measurements were taken of each child. These measurements included

height, weight, girth of hips, girth of chest, and height of waist.

After all the measurements had been taken and the data carefully analyzed, certain conclusions were reached. First, age is the worst possible guide for sizes in children's clothes. The best way of solving the problem is through the use of any one of three sets of measurements—height and weight, height and girth of chest, or height and girth of hips. The final decision was to use height and girth of hips as a guide for establishing uniform sizes. When children's garments are made according to this system of sizing, any parent can take measurements and go to the store with some hope of getting the right size of garment.

CHECK THE FIT OF YOUR DRESS

After you are sure you have found the right size of dress, check the fit according to these points.

1. Does the end of the shoulder seam coincide with the tip of the shoulder? The shoulder should not hang down over the arm or pull the sleeve up over the shoulder.

2. Does the back of the neck ride up or pull away from your neck? It should fit smoothly.

3. Is the waistline straight? It should not hike up or sag either in the front or in the back.

4. Is there plenty of "give" through the shoulders? This is particularly important if you expect to wear the dress for any activity such as driving a car or reaching into filing cases in an office.

5. Does the dress fit around the hips? If it is even a trifle too tight, it will soon lose its shape and wear at the seams.

6. Is the length of the skirt right? If not, this alteration generally can be made without difficulty.

IS THE DRESS WELL CUT?

When you consider the cut of a dress, think of the same points which were made in connection with the cut of a coat.

1. Are all parts of the dress, sleeves, blouse, and skirt, cut straight with the grain of the cloth?

2. If the fabric has a pattern, is it well matched at the seams? Are the two sides of the collar alike in pattern? The sleeves?

3. Is the dress cut full or is it skimmed in parts? Is the skirt too narrow for ease when you walk? Will it creep up when you are sitting?

IS THE WORKMANSHIP OF GOOD QUALITY?

Some of the points used in judging workmanship on a coat-suit or shirt can be used equally well in checking workmanship on a dress.

1. Seams should be generous in width and evenly stitched. Examine the seams inside the upper part of the dress as well as those in the skirt.

2. If the fabric frays easily, the seams should be securely finished. Pinked edges are not satisfactory for such materials as spun rayon. Net binding makes a good finish for loosely woven materials with a tendency to fray.

3. There should be no unnecessary piecings in the skirt or elsewhere. Some manufacturers save material by using small pieces.

4. The stitching should be smooth with no puckering. The stitches should not be less than 15 to the inch in medium-weight material. There should be no threads hanging loose.

5. Hems should be smooth and even. In dresses to be dry-cleaned, a ribbon binding should be stitched to the edge and then blindstitched to the skirt. In washdresses the fabric may be folded and stitched and then blindstitched to the skirt.

6. The neck opening, cuffs or sleeve finishes, and plackets should be neatly and smoothly finished.

CONSIDER THE DESIGN

First of all, consider the type of dress which you need. Dresses are divided into the following general classes: house-

dresses, street dresses or schooldresses, afternoon dresses, and formal dresses. Before you shop for a dress, decide first what type of dress you should buy. Wearing the right type of dress for the right occasion is mostly a matter of common sense, yet many girls choose afternoon dresses for street and school wear.

Second, consider the design with relation to the service which you expect from the dress. Does it have long, wide sleeves, which will interfere with your work at a desk or your comfort at a dinner table? Does the skirt have pleats in the back which will soon become mussed from sitting at your work? Does the dress have buttons in the back which will scratch your furniture? Does it have fancy trimmings which will catch on knobs and handles?

Third, consider the design for lines and proportions. Does the dress look cut up into too many parts? Is the design fussy? Is it plain and uninteresting? Is it ordinary-looking or does it have pleasing character?

Fourth, consider the color of the dress with relation to the rest of your wardrobe. Will it harmonize with the clothes which you expect to wear with it? It is hardly an economical selection if it requires a new hat, purse, coat, or gloves to go with it. Planning your wardrobe in terms of color is one of the best ways to economize on your clothing purchases and at the same time get good value for your money.

Fifth, is the design becoming? Try on the dress and look well at yourself, using a triple mirror if possible. Does the dress make you look too wide and heavy? Too tall and thin? Is the collar flattering to your neck and face? Does the color make you look too pale? Too sallow? Too ruddy?

SUMMARY OF POINTS ON CHOOSING A RAYON DRESS

Many of the points discussed with regard to the selection of a rayon dress apply equally well to the selection of a dress made from other textile fibers. You should be able to use what you have learned about wool materials for coats and

suits in the selection of a wool dress. You should also be able to use what you have learned about cotton shirting materials in the selection of a cotton dress.

1. Is the fabric firm with no tendency to slippage?
2. Is the type of rayon stated on the label?
3. Is the workmanship satisfactory?
4. Is the size and fit correct?
5. Is the dress well cut?
6. Does the type of dress suit your needs?
7. Is the design attractive?
8. Are the color and design becoming?

SUGGESTIONS FOR DISCUSSIONS AND ACTIVITIES

1. Arrange for a day when each boy will bring a shirt and each girl will bring a dress to class. Make a score card for the garment which you bring. Judge the quality of each point as excellent, medium good, or poor. Use the points listed in the summaries on this page and on page 200.

2. Collect advertisements for dresses and for shirts. Check these advertisements for informative labeling. Select the one which you consider best, also the one which you consider poorest.

3. Collect samples of cotton and rayon fabrics. Arrange these samples in three groups according to quality of fabric. One group should contain the fabrics which you consider best in quality, one group those which are medium good, and one group those which are poor.

4. If possible invite a buyer of shirts or of dresses to talk to your class.

5. Arrange for special reports on other man-made fibers. These reports should include vinyon, casein (Aralac), soybean, nylon, and glass fibers.

YOUR CONSUMER INVESTIGATIONS

1. Investigate prices and qualities for at least two brands of shirts or dresses sold in your shops. Report your findings and conclusions to the class.

2. Report any experiences you have had in trying to find out about hidden qualities in dresses or shirts.

3. Compare the cost of ready-made dresses with the cost of patterns and materials for dresses made at home. Obtain definite figures.

~9~

WHAT VALUE COSMETICS?

THE cosmetic business in the United States reaches the billion-dollar mark every year. This means that a lot of people spend a lot of money for cosmetics. Do they get their money's worth?

Probably not, unless they know some fundamental facts about cosmetics and their true value. It is vitally important that consumers should understand the true values of cosmetics. There are probably more romantic advertising, more deeply hidden values, and greater misunderstanding about cosmetics than about any other commodity which consumers buy.

Try to answer the following quiz questions. (*Do not write in the book.*)

CONSUMER QUIZ

1. Which of these ingredients is most commonly used in soap?
Coconut oil Mineral oil Wood ashes Lime
2. The wrapper of every bar of toilet soap must bear a label including:
Name of manufacturer, packer, or distributor
Weight of the bar of soap
Amount of free alkali in soap
3. A bar of milled soap is firmer and harder than a bar of framed or molded soap. True or false?
4. Castile soap is always made from pure olive oil. True or false?

5. Shampoo soaps are expensive because they contain a high percentage of:
Olive oil Water Caustic soda Perfume
6. Oily skins should have:
Frequent washing with soap and water
Little washing with soap and water
Astringent creams
Cold cream
7. Dry skins should have:
Frequent washing with soap and water
Vanishing cream
Cold cream
Astringent lotions
8. Foundation creams have a high content of:
Soap Water Lanolin Olive oil
9. The best guide to a safe and efficient dentifrice is:
Flavor Price ADA seal Manufacturer's label

COSMETICS FOR THE SKIN

A large share of the billion dollars which consumers pay for cosmetics every year goes for powders, rouges, lipsticks, creams, and other preparations to be applied to the skin. Much of this consumer money is wasted. Some girls buy cosmetics with the mistaken notion that they contain secret and magical ingredients—creams that will give them the skin of a baby, powders that will impart glamour, lipsticks that will bring romance, and soaps that will beautify. Other girls choose the wrong kind of cosmetics for their particular kind of skin. Others buy cosmetics that are worthless because they do nothing at all for the skin. Still others buy cosmetics that are definitely harmful. Men, too, are guilty of wasting money on cosmetics. They may choose the wrong kind of shaving cream or soap for their skins, and sometimes they pay a high price for these articles when lower-priced articles would give them the same service.

All these mistakes in buying cosmetics are caused by lack

of understanding of the real problems involved in the care of the skin. The proper care of the skin does include the use of certain kinds of cosmetics, but these cosmetics must be chosen to perform special services.

First, *the skin should be kept clean*. This means much more than merely wiping the dirty smudges off your face. The skin constantly secretes and gives forth a kind of oil called sebum. This oil is let out through the mouths of the tiny hair follicles. These openings in the skin are commonly called pores, although the openings to the sweat glands are the real pores. Some skins produce a great deal more oil than others. Thus, we have "oily" skins and "dry" skins.

The openings to the oil ducts should be kept clean and not allowed to become clogged with sebum and dried skin cells. Washing with soap and water is the best way to clean these openings. Rubbing cold cream on the face forces cream into the openings and if left there it may clog the opening completely. Wiping off the cold cream with a cloth may not remove it from the tiny openings. Soap and water is considered the best cleanser. If your skin is dry you will not wish to use so much soap as those who have oily skins. Indeed, too much soap may be irritating. Use common sense and decide how much soap your face requires.

Blackheads and pimples are caused by clogged openings to the oil ducts. You can see how important it is to keep the skin really clean. If your skin is oily, it may require several thorough washings with soap and water every day.

Second, *the skin should have sufficient stimulation to promote healthy activity and to increase the blood supply*. Brisk rubbing with your washcloth helps to stimulate the skin. Massage, either with or without a face cream, is another method of stimulation.

Third, *the skin requires lubrication to keep it soft and pliable*. If the oil glands do not supply enough natural oil for this purpose, then an emollient or softening cream is necessary.

Fourth, *the skin needs protection from wind, sun, and*

dust. These have a wrinkling and drying effect on the skin, and some cosmetics, such as cream, lotion, or powder, should be used for protection.

Cleanliness, stimulation, lubrication, and protection are necessary for the best care of the skin. Of course, your good complexion depends upon good general health, which you will do your best to maintain. Good health and intelligent choice and use of cosmetics will keep your skin healthy and attractive. Cosmetics possess no secret powers that will bring you beauty with their magic touch. Glamorous beauties who recommend certain cosmetics were not transformed overnight by the products which they endorse. High prices do not mean correspondingly high values in cosmetics. Remember that your money must pay for the superadvertising and elegant bottles and jars as well as for the cosmetics themselves.

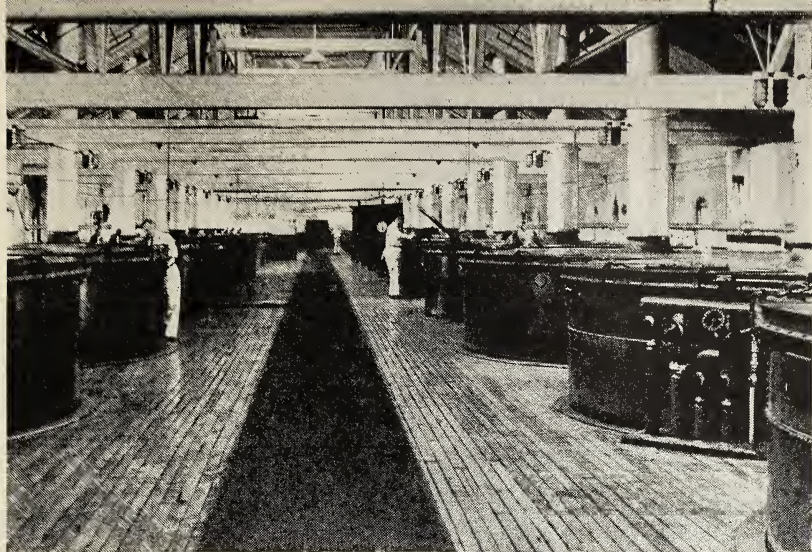
Ask these two questions of yourself before buying your cosmetics: 1) What can this product really do for me? 2) Is there another brand which will do as much for less money?

WHAT'S IN A CAKE OF SOAP?

There are many kinds of soap on the market, and it is exceedingly difficult for the consumer to choose the best kind for his needs. A few facts about soap-making should help us to select more intelligently.

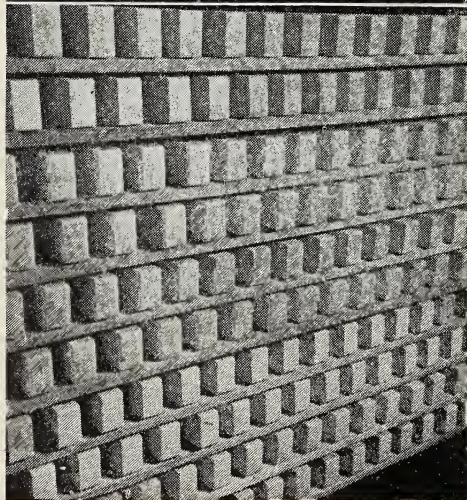
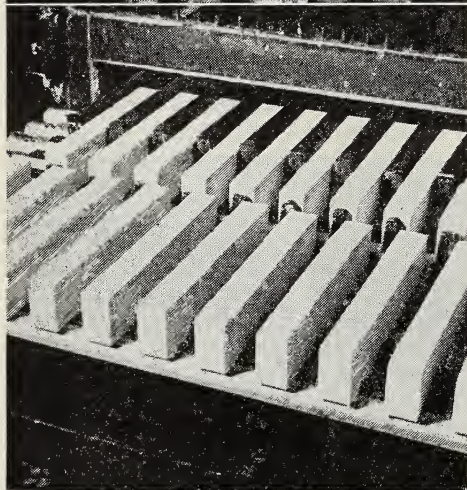
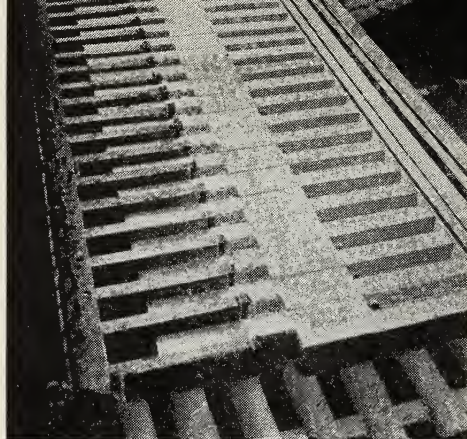
There are two basic ingredients in all soap—*fats* and *alkalies*. Chemists tell us that soap is the result of the chemical reaction of fat with an alkali. The fats generally used for soap are tallow, olive oil, coconut oil, cottonseed oil, palm oil, and others. The alkalies generally used are caustic soda and caustic potash. Soaps made with caustic soda are hard soaps, and those made with caustic potash are soft soaps.

The first step in making soap consists of boiling the fat and alkali together. This is done in huge kettles or vats which in some factories reach from the first floor to the third floor.



Courtesy Procter and Gamble

The kettle room on the third floor of a soap factory (top). Giant, funnellike kettles (bottom) reach upward to the third-floor kettle room. Each kettle holds 300,000 pounds—ten carloads—of soap.



Glycerin is an important by-product in soap-making. Glycerin plays a big part in the munitions industry in making dynamite and other explosives. After the glycerin has been removed, the soap is allowed to settle, leaving a layer of pure soap on the top.

The second step in soap-making is the finishing. This consists of mixing, adding any other ingredients, and milling, molding, or grinding the soap. During the finishing process, soap is given its final character and form. Consumers require several different kinds of soaps to meet their needs. Toilet soaps, soap powders, laundry soaps, flakes, bars, hardwater soaps, and liquid soaps suggest some of the different types. Of course, the character of the soap is affected by the kinds

Courtesy Procter and Gamble

Framed soap is first cut into slabs by a frame strung with piano wire. Then it is dried and shaped by stamping.

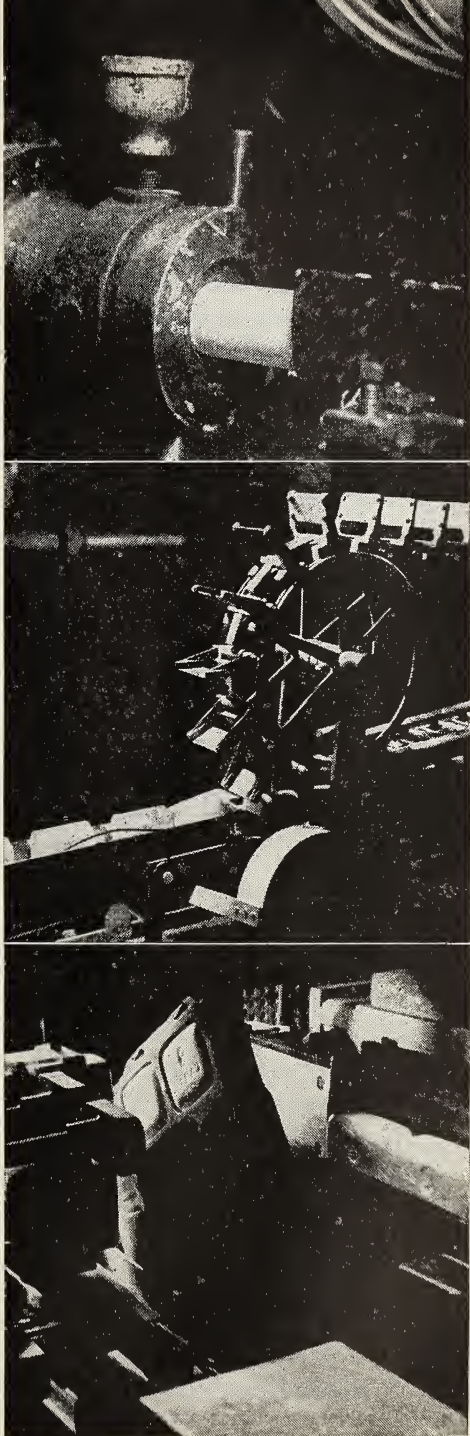
of alkalies and oils which are used.

The first process in finishing the soap is the "mixer." Hot liquid soap, water, and other ingredients are put into the "mixer." Disinfectants, perfumes, dyes, abrasives for scouring soaps, "builders" for water softeners, and air for floating soaps may be added in the "mixer."

There is a certain amount of *water content* in all soaps. Too high water content should be considered an adulterant. If a cake of soap which costs 10 cents has a 20 per cent water content, then 20 per cent of your money buys only water. A good, milled toilet soap should not have more than a 15 per cent water content. A good molded soap should not have more than 30 per cent water

Courtesy Procter and Gamble

Milled or molded soap is first compressed into a hard cylinder, then cut into short lengths the size of the cake of soap, and finally molded or stamped.



content. White laundry soap generally contains about 40 per cent water. Mild soap flakes and beads should not contain more than 10 per cent water. It is not easy to test your soap for water content, but if the soap seems to use up very rapidly it may have a high water content.

Air may also be considered an adulterant in soap when used in excessive quantities. Floating soaps contain thousands of tiny air bubbles. Too much air and too little soap is not a good value for your money. Compare the weight of a floating soap with the weight of a nonfloating soap and figure the cost per ounce. This buying problem may remind you of our study of ice cream. A large cake of floating soap may actually weigh less than a smaller cake of nonfloating soap.

Dye and perfume are added to some toilet soaps. The color is pretty and the perfume is pleasant, but they add nothing to the efficiency of the soap. Color and perfume sometimes make a large difference in price, but no difference in the quality of the soap. Sometimes color and perfume are used to cover up ingredients of poor quality. Certain perfumes are irritating to the skins of some people.

"Builders," such as trisodium phosphate, borax, washing soda, and soda ash, are added to some soaps, especially laundry soaps. These "builders" act as dirt removers and as water softeners. They are desirable in soaps which are used in hard water, but they may be irritating to the skin and may damage fine silks and woollens. Toilet soaps and mild laundry soaps should not contain much free alkali. The government will not buy toilet soaps which contain more than one tenth of one per cent of free alkali. You can test your toilet soap for free alkali by a very simple method. Put the tip of your tongue on the bar of soap. Of course, it will taste like soap, but it should not bite or burn. The burning or biting sensation indicates the presence of free alkali.

The last step in the finishing process consists of forming the bar of soap. There are two general methods for forming a bar of soap—milling and framing. The milled bar, also called "French milled" and "hand milled," is made by changing the hot liquid soap into chips or ribbons. Perfume and

coloring matter are added and the mixture is thoroughly blended. Then the mixture is compressed into firm, smooth bars. Because they are firm and hard, milled cakes of soap last longer than framed soap.

Framed soap is made by running the liquid soap directly into frames or molds. The cakes of soap are shaped when the liquid hardens in the frames.

Some soaps are adulterated with *fillers*. Chalk, starch, and other substances are sometimes added to soaps in order to increase the weight or size of the soap bar. These fillers have no value whatever and are used only to deceive the consumer.

TYPES OF TOILET SOAP

There are many kinds and brands of toilet soap on the market. Brand names are not at all helpful in selecting the kind of soap best suited to your needs. Every consumer should know the general types of soaps which are available. Then he can choose his own soap with more assurance of a successful selection.

Castile soap originally was made from olive oil and soda. Soap made from pure pressed olive oil and soda is least irritating of all soaps to sensitive skins. Although it gives a rather thin lather and is somewhat oily, it works fairly well in soft water.

Some pure castile soaps are still made, but most castile soaps now contain coconut oil and other oils. Coconut oil makes a soap that lathers freely in hard water. However, coconut oil is very irritating to some skins. Castile soap made with a large percentage of coconut oil is not in the same class with the original castile soap. Tests have shown that there are no castile soaps now manufactured according to the old recipe for pure castile soap.

There is no law which prevents the use of the term castile on soap made from oils other than olive oil. This is most unfortunate for the consumers who wish to buy true castile soap. There is no way by which they can be sure of selecting olive oil castile.

Hardwater toilet soaps are made with coconut or palm-kernel oils. These oils lather well in hard water, and are especially useful in localities where water contains a large amount of minerals. Generally these oils are used in combination with other oils, although some toilet soaps are nearly 100 per cent coconut oil. As we have said before, coconut oil is very irritating to some skins.

Tar soaps are made by adding pine tar or other tar to the soap. The dark color is obtained by adding black dye. Tar has no special value in soap, but it pleases some people perhaps because of the odor.

Grit soaps are made by adding powdered pumice, sand, or other abrasives to the soap. This type of soap is useful in removing ink stains and black, greasy substances from the hands.

Medicated soaps are made by adding disinfectants to the soap. The value of this kind of soap is questionable. Enough disinfectant added to produce strong germicidal action is very irritating to the skin. All soaps have some germicidal action because they destroy and carry away germs deposited on the skin.

Shaving soaps are made with ingredients which produce thick lather quickly. Other ingredients are added to prevent the lather from drying out rapidly. Shaving soaps are also considered good for washing the hands and face.

Shampoo soaps are generally made with a high percentage of coconut oil in order to secure a thick lather. They are usually prepared in liquid form, which means that you pay for a high percentage of water content. In some liquid shampoos the water content is as high as 90 per cent. Mild soap flakes or beads make a very satisfactory shampoo at much less cost than the prepared shampoos. Put a small quantity of the soap in a jar and add enough hot water to dissolve the soap.

Oily scalps can be shampooed very satisfactorily once a week with tincture of green soap, U.S.P. This is a liquid-soap preparation sold at drugstores. The U.S.P. stands for

United States Pharmacopoeia, which means that the quality of the product meets a high standard. The U.S.P. standards are prepared and published by an organization called the United States Pharmacopoeial Convention. The organization is made up of representatives from the United States Navy, the United States Army, the States Marine Hospital Service, medical societies, and colleges of medicine. Consumers should know that any product labeled U.S.P. is of high quality and safe to use.

Beware of "dry-cleaning" shampoos. They are expensive and dangerous to use.

Serious accidents have been caused by these inflammable preparations. Soap and water are safer and more effective.

LABELS ON YOUR SOAP

Most labels on toilet soap include nothing more than the brand name, the manufacturer's name, and an advertising slogan. A typical example of labeling on toilet soap might read, "Glamour Girl Toilet Soap, the Soap That Loves Your Skin, Fatanash Soap Company." There is no law which requires labeling of soaps to tell the ingredients used or the weight of the bar. The Federal Food, Drug, and Cosmetic Act of 1938 does not include any provisions for the control of soap. Manufacturers are not required to name ingredients or to state the weight of a bar of soap. According to the Federal Food, Drug, and Cosmetic Act, soap is not a cosmetic. Most manufacturers do not choose to label their soap



KS-23

KAUFMANN'S HARDWATER SOAP WITH BUTTERMILK

Manufactured according to specifications approved by Kaufmann's scientists, and found suitable for Pittsburgh water.

Contents: only first class fats and oils. Hard cake with low moisture content for economical use.

Cleansing qualities: ingredients provide excellent lathering and cleansing in hard water. The perfumes are pleasing. Colors are harmless to the skin.

Courtesy Kaufmann's, Pittsburgh

An informative soap label.

for weight and ingredients, and the law does not require them to do so. However some manufacturers provide information about their soap as shown on the label pictured on page 225.

WHAT CAN SOAP DO FOR YOUR SKIN?

A good toilet soap leaves the skin clean and soft, without irritation because of excessive free alkali or excessive amounts of coconut oil. Price is not an indication of quality. A plain inexpensive bar of white soap can do as much for your skin as the small, fancy, perfumed bars which cost much more.

Do not expect impossible things from your toilet soap. There are no "beauty" soaps which will reduce your weight, nourish your skin, give you vitamins, or bring you romance. Do not be impressed by poetic advertisements which suggest miracles for the users of certain "beauty" soaps. The very best beauty soap can do no more for you than keep your skin clean and soft.

There are a great many good toilet soaps on the market. Your choice among these good soaps should take into consideration the price. A plain white, molded bar of soap costing eight cents may do just as much for your skin as a fancy colored and perfumed milled bar for twenty cents. The two bars may weigh approximately the same. In such a case you must choose whether you wish to pay twenty cents for an elegant-looking bar of soap or pay eight cents for soap and save twelve cents for some other purpose.

In order to compare values in different brands of toilet soaps you should know:

1. How much the soap weighs.
2. What amount of free alkali is present.
3. How much water is present.
4. How much air is contained in floating soap.
5. What amounts of builders were used.
6. Whether fillers were used.
7. What fats were used.

Most of this information is well hidden from consumers, and labels do not give it. Most consumers cannot test their soaps for content except through experience in using the soaps. The one thing that consumers can do is always ask for the information about their soaps. Continued requests to retailers, manufacturers, and distributors will prove to the soap industry that the consumer wants to know what's in his soap.

WHAT'S IN YOUR FACE CREAM?

In the early days of the cosmetic industry, all facial creams were known as cold creams. Since cold cream is not made from cream and is not cold, the name is an odd one. At the present time there are dozens of different names for face creams, and there are several different types of creams. The cosmetic industry has done its best through high-pressure advertising to persuade women and girls that everyone of them should have at least four different types of creams for her beauty routine. Before you can make an intelligent selection you should understand the basic differences in the general types of face creams and know what each type can do for you.

Cleansing creams are especially useful for removing make-up. There are two types and every girl should choose the kind which is best adapted to her skin. The emulsion or non-liquefying type is best for dry skins. Emulsion cream is an emulsion of animal and vegetable fats and water. It is sometimes called cold cream. A quick-liquefying type of cleansing cream is best for oily skins. Quick-liquefying creams are made with mineral oils and waxes. The mineral oils melt at body heat, thus making a cream which spreads quickly and easily. Quick-liquefying cream has a translucent appearance, and cold cream has an opaque quality.

Remember that soap and water is the best cleanser for the skin. In the case of very dry skin which is irritated by the continual use of the soap and water a cold cream cleanser

should be used frequently. Cleansing cream is helpful in removing make-up and certain kinds of grime. Your beauty routine may well include an application of cleansing cream followed by soap and water, except in the case of excessively dry skins.

Emollient or "treatment" creams are useful in three ways.

1) They may act as softeners for the dry skin, preventing roughness and chapping. This type of cream generally contains lanolin, which is obtained from wool fibers. 2) They may act as "dryers" for oily skins. A good cold cream or astringent lotion is useful for this purpose. Remember that frequent applications of soap and water are best for these skins, but astringent lotions may also help to reduce oiliness. Astringent lotions have an alcoholic base which acts as a solvent for excess sebum and temporarily inhibits the flow of sebum. *Astringent creams* should not be used as a corrective for oily skins because they merely add oils and fats to a skin already too oily. 3) Some emollient creams afford protection against the weather. Wind and sun have a drying and wrinkling effect on the skin. Certain sunburn preparations screen the skin from the sun's rays. Other sunburn preparations are intended to soothe a skin that has been burned. In choosing a sunburn preparation be sure to select the right type for your purpose.

Foundation creams or vanishing creams are useful as a make-up base. Most of these creams have a high soap content. Their application produces the same effect as rubbing soap on the face and allowing it to dry. Skins which are sensitive to soap naturally are irritated by these creams. For other skins, the foundation cream may act not only as an adhesive for the make-up but as a partial protection against wind and sun.

BEWARE OF SPECIAL CREAMS

There have been a great many face creams on the market which are known as "tissue builders," "rejuvenating

creams," "skin foods," "reducing creams," and "wrinkle removers." Each of these special creams is supposed to produce a miraculous effect on the user. Indeed it would be a true miracle if any one of them accomplished one-half of what has been claimed for it. Skin cannot be fed by rubbing it with any kind of preparation, because it is fed only through the blood stream. Tissues cannot be built or wrinkles removed by application of any preparation. The only possible value these creams might have is that they induce the user to massage the skin thus stimulating circulation. But remember it is the massage and not the cream which stimulates the blood stream.

Before the passage of the Wheeler-Lea Act in 1938, the cosmetic market was flooded with these special creams. Fortunately, the act prohibited false or misleading advertising, and therefore most of these special creams with their ridiculous advertising claims have disappeared. However, every consumer should watch for advertisements which make impossible claims for their cosmetic products.

Beware especially of bleaching creams and "freckle removers." The use of these creams may cause the skin to peel, and this is dangerous. If such creams contain only a mild bleach, they are not effective. Probably the best bleach is lemon juice.

FACE CREAM AND COMMON SENSE

No face cream or other cosmetic is a shortcut to beauty and glamour. Choose your face cream for what it can really do. Perhaps you will find that one cream is adequate for all your needs. The average normal skin does not require an elaborate supply of face creams.

Price is not an indication of quality. Two equally good creams may sell for widely varying prices. One may be put up in a fancy jar for which you must pay. You may also have to pay for national radio advertising.

You will have to judge the efficiency of your face creams

for yourself. Does your cleansing cream leave the face clean? Does your emollient cream leave the skin soft and supple? Does your face cream have a pleasing consistency? Can you find a cheaper cream which is just as efficient? Remember you do not have to pay for precious and secret ingredients. There can be none.

POWDER, ROUGE, AND LIPSTICK

Face powder is made almost entirely from mineral products. Orris root and rice starch are not now used in many face powders. Some people are allergic to these substances and should not use face powders containing them. Most American face powders are of very good quality. Selection should be made according to shade and weight. Heavy powders are considered best for oily skins. Satisfactory powder adheres well to the skin. It also absorbs oil and moisture from the skin and spreads over the skin easily. When rubbed between the fingers, good face powder feels smooth and silky.

Rouge should also feel smooth and silky, without coarse or sharp particles, when rubbed between the fingers. Dry and cream rouge are made from the same ingredients. Dry rouge is considered best for oily skins and cream rouge best for dry skins. Aniline or coal-tar dyes are used for the coloring matter in rouge. These dyes must be certified by the Department of Agriculture. However, there are a few people who are allergic to these dyes.

Lipstick is made from the same ingredients as cream rouge, but with more wax to make it durable. The consistency of lipstick is important. If it is too soft it smears easily, and if it is too hard it is difficult to apply.

Powder, rouge, and lipstick should be carefully selected for color. Face powders vary in tint from pinkish tones to deep cream and orange tones. Rouge and lipstick vary from light cherry red tints to deep purplish tones. Your problem is to find the colors which blend best with your own natural coloring. Be careful to choose make-up which does not

“fight” with the natural coloring. Such make-up is sure to look artificial. For example, if you are a bit sallow and dark, do not try to wear make-up meant for pale blondes. The wrong make-up on the wrong face always suggests that the wearer is trying out a poor disguise. Be yourself when you choose your make-up. If you are sallow choose the creamy and darker tints in powder, rouge, and lipstick. Make the most of what nature gave you. Do not try to change it.

Health is the basis of charm and beauty. Before you think too much about make-up, check on your health habits. Can you do more for your appearance with good diet, more rest, and outdoor exercise? Your make-up should be used only to emphasize the healthy, natural coloring which nature gave you.

LOTIONS FOR YOUR HANDS

Many people require lotions to keep their hands soft and to prevent chapping, especially in winter. There are two main types of hand lotions: (1) those that prevent chapping, (2) those that soften and lubricate the skin after it has become chapped and rough. The first type is generally made with glycerin and without oil or fats. These lotions are in effect vanishing creams. The glycerin has a drying effect and frequently causes dryness of the skin by extracting the natural oils. The second type of hand lotion is an emollient and contains grease. You can very well use face cream as a hand lotion for roughened hands.

Most hand lotions are high-priced in relation to the cost of the ingredients. Often we pay more for the fancy bottles and superadvertising than for the lotion itself.

PREPARATIONS FOR THE NAILS

Nail powders and pastes are made chiefly from tin oxide or some other mild abrasive which smoothes down the surface of the nail as it is buffed. Nail lacquers are made of nitrocellulose in a solvent. They are much more popular

than powders and pastes probably because they do not require nearly so much time to apply. You can test the quality of a liquid polish through use. It should flow evenly and adhere well. It should not chip off easily. After a little experience with different products you can select the one which works well and costs the least. Here again are no secret ingredients which can bring you glamour. Choose the kind which comes in the biggest bottle for a dime providing it is satisfactory.

Nail polish removers are made from acetone or ethyl acetate which acts as a solvent of the lacquer. Some removers also contain oil which is supposed to soften the skin and cuticle around the nails, but these are not effective. For dry skin and cuticle use a good emollient cream. It is not necessary to buy a nail cream or oil for this purpose.

Nail bleaches are made from various solutions intended actually to bleach the nails. Solutions containing oxalic acid should be avoided, because this acid is poisonous. Nail whites, made from pigment, are applied under the nails to whiten them. They are harmless unless made from lead. Since it is difficult to find out whether nail bleaches and nail whites are free from poisonous substances they had best be avoided.

COSMETICS FOR YOUR SCALP

The first requirement for good care of the hair is cleanliness. Shampoo soaps have already been discussed. Good care also includes lubrication if the scalp is dry. Olive oil or castor oil makes a satisfactory lubricant for the scalp.

Some people buy their shampoo soaps and wash their own hair; others prefer to go to beauty shops and barbershops for their shampoos. You should be as particular about your choice of a barbershop or beauty shop as about your choice of a shampoo soap. First, is the shop clean? Are the combs and brushes sterilized after each shampoo or haircut? In most communities there are laws which require sterilization of combs and brushes after each using. Check up on this point

in your own barbershop and beauty shop. After all you do not wish to pay for exposure to germs and bacteria. If you get an infection of the scalp along with your haircut or shampoo, you certainly will not get very good value for your money.

Permanent waves are now available at prices which most girls can afford to pay. The prices vary from very little to a great deal. When you select your permanent wave, try to find out just what you will get for different prices. Do not be satisfied if the operator merely says that the expensive wave is "better." Ask how and why it is better.

The success of a permanent wave depends on the condition of the hair, the skill of the operator, the quality of the materials and equipment, and the after-care of the hair. The process of permanent-waving stretches the hair as it is wound tightly around the curling rods. It is softened with a solution and heated. This actually changes the hair from straight to curly. This is permanent if you get a good wave, but it does not, of course, affect the new hair which grows after the permanent.

ARE YOU INFLUENCED BY SALES TALK?

Everyone is constantly exposed to sales talk and other forms of advertising which are meant to persuade them to buy the latest thing in cosmetics. One frequently encounters a demonstrator holding forth in the ten-cent store who tries to persuade you that this hair tonic or that shampoo is just what you need. Radio programs and magazine and newspaper advertisements are loaded with arguments for special cosmetic products. At every visit to a beauty shop you may hear some very clever and persuasive sales talk by the operator who wants to sell you as many cosmetics as possible. Her success as a beautician may depend on her ability to sell her customers the shop's cosmetics.

Do not be impressed by sales talk or advertisements which are merely clever appeals for your money. When you buy

a cosmetic be sure you know just what it can do for you. Secure as much information as you can and depend on your common sense.

Do not try to be your own doctor or allow a salesperson to prescribe for an abnormal condition. If you have a skin infection, or if your hair is excessively oily or very dry, consult a doctor. Never buy hair tonics unless they have been recommended by a physician in whom you have confidence.

WHAT CAN YOUR DENTIFRICE DO FOR YOU?

Some people expect miracles of their toothpastes. Perhaps they believe the toothpaste advertisements which claim such marvelous results. What can a dentifrice really do for your teeth? It can help to keep them clean and polished. This is all that can be expected of a toothpaste or toothpowder. Most dentifrices contain chalk which acts as the polishing agent. Good-quality chalk for this purpose is fine and smooth. Coarse, gritty chalk or other abrasives are dangerous because they wear away the tooth enamel. Dentifrices cannot whiten teeth, stop bleeding gums, or cure pyorrhea.

A CONSUMER AID WHEN BUYING TOOTHPASTE

In no other article on the consumer's everyday buying list is quality more completely hidden than in toothpaste. There is no way in which the consumer can tell whether a toothpaste is helpful or harmful to his teeth, or whether it has any effect at all. Unless he has help from a reliable source, his choice usually depends on whether the toothpaste has an agreeable flavor. Certainly flavor is no standard for selection of a toothpaste.

Fortunately, there is one very reliable guide for the consumer when he selects a toothpaste or other dentifrice. The American Dental Association maintains a service which aids the public in the selection of safe and helpful dentifrices. The Council on Dental Therapeutics of the American Dental Association permits the use of its seal on dental products

which have been accepted by the committee. The seal, which is shown in the illustration on this page, may be used in advertising, in circulars, and on packages, after the product has been made acceptable to the Council and after the acceptance has been announced in *The Journal*.

There has been a great deal of advertising both in print and on the air for various dentifrices. Sometimes the claims of the advertisers are true, but often they are false and misleading. The next time you select a dentifrice, look for one which bears the shield of the Council on Dental Therapeutics of the American Dental Association. Remember also to read the labels for the amount of contents and to compare prices as you have learned to do for other types of products.



Courtesy American Dental Association, Council on Dental Therapeutics

Watch for this seal on your dentifrices.

GOVERNMENT REGULATION OF COSMETICS

Two federal laws offer protection to the cosmetic consumers. Our old friends the Federal Food, Drug, and Cosmetic Act and the Wheeler-Lea Act protect our health and our pocketbooks when we buy cosmetics. These two laws were passed during the same session of Congress in 1938. Some people believed that the requirements of both laws should have been combined into one law.

The Federal Food, Drug, and Cosmetic Act does not control the manufacture and sale of cosmetics in so complete and satisfactory a manner as it does the manufacture and sale of food and drugs. However, it is vastly better than the old Food and Drug Act of 1906 which permitted both fraudulent and dangerous practices in the cosmetic industry. Serious injuries and several deaths resulted from the use of injurious cosmetics before the passage of the new act in 1938. In fact, the old act had almost no control over the manufacture and sale of cosmetics. The cosmetic industry was very small and unimportant in 1906. Since that time it has grown

to tremendous proportions. Here are the important requirements of the 1938 act which you should know.

HEALTH GUARDS

A cosmetic must not contain any substance which may make it harmful to users when used as is customary or under the directions for use indicated in the labeling.

Dangerous coal-tar hair dyes must be labeled with the caution statement stipulated in the act.

Cosmetic containers must not be composed of any substance which may render the contents harmful.

Cosmetics (except hair dyes) may contain only those coal-tar colors which come from a batch certified as being harmless.

SANITATION

A cosmetic must not consist of any filthy, putrid, or decomposed substance.

Cosmetics must be prepared, packed, and held under sanitary conditions.

LABELING INFORMATION

Cosmetic labeling must include the following information:—

1. The name and address of the manufacturer, packer or distributor.
2. An accurate statement of the quantity of contents.
3. All the information required by the Act must be shown in the labeling in a form easily noticed and readily understood.

PROHIBITED DECEPTIONS

The labeling of a cosmetic must not be false or misleading in any particular.

A cosmetic container must not be so made, formed, or filled as to be misleading.

From the point of view of the consumer there are certain omissions in this law which are unfortunate. First, soap does not come under the law at all. Second, the law does not require the manufacturer to label his cosmetics with the names of the ingredients. If every cosmetic were labeled with the common names of all ingredients, it would soon convince

Gardenia

Adoria
TALCUM

Adoria
TALCUM

DISTRIBUTED BY

K A U F M A N N ' S
FIFTH AVENUE PITTSBURGH, PA.

NET CONTENTS ONE POUND



KS-508

Manufactured according to specifications approved by Kaufmann's Multiple Fellowship at Mellon Institute. This powder contains only pure soft imported talc, finely ground, with perfume added. It has no starch ororris root. It helps protect the body from irritation caused by perspiration and rubbing of clothing. Excellent for after bathing and shaving.

Courtesy Kaufmann's, Pittsburgh

An informative cosmetic label.

consumers that there are no secret and precious ingredients which will work miracles. Third, there is no provision for standard quality below which the product may not be sold without a substandard label.

The Wheeler-Lea Act prohibits false and misleading advertising and is administered by the Federal Trade Commission. The annual reports of the FTC list many cases in which cosmetic advertisers have been asked to cease the use of certain types of advertisements. For example, the makers of a certain well-known hand lotion were prohibited from saying that their hand lotion contained more costly ingredients than other hand lotions and from saying that all other lotions left a sticky gummy feeling which theirs did not. The makers of a certain cleansing cream were prohibited from saying that their product penetrated to the depths of the pores, that it vitalized the skin and brought a younger complexion.

The Wheeler-Lea Act covers the advertisements of all products, including soap—which is omitted in the Federal Food, Drug, and Cosmetic Act. The FTC has required the makers of a certain soap to cease advertising that their soap would correct skin disfigurements, rejuvenate the skin, and nourish the skin because of the vitamin content.

There are many state laws as well as the federal laws which are designed to control the sale and manufacture of cosmetics. The laws in many states are patterned after the federal laws. Every cosmetic consumer should find out about these laws in her own state.

SOME FINAL HINTS FOR COSMETIC CONSUMERS

1. Be critical about every cosmetic which you buy. Will it do the work expected from it? Is it too expensive for what you get?
2. Do not expect miracles or believe in fairy-tale cosmetics. Use common sense and find out what can justly be expected from each product.

3. Do not be impressed by superpowered advertising.
4. Seek information about every product that you buy. Read the labels and ask the salespeople for facts.
5. Try to acquire a good, sound, scientific attitude about cosmetics and the whole beauty problem.

SUGGESTIONS FOR DISCUSSIONS AND ACTIVITIES

1. List the requirements for an ideal soap label. Make a label for a bar of toilet soap which tells everything that a consumer should know. Do not make the label long and hard to read, but make it complete enough to be truly informative.
2. How much do you spend for soap annually? Probably you can compute this figure from your weekly or monthly consumption of soap.
3. Arrange for a day when members of the class will bring several bars of different brands of soap. Arrange also for a pair of scales upon which you can weigh the soap. Record the weight and price of each bar of soap on the blackboard. Which bar apparently gives you the most soap for your money? Are there any factors which make the more expensive bars better in quality?
4. Invite a doctor to talk to the class on the subject of cosmetics and the care of the skin and hair.
5. Arrange for a demonstration of different shades of powder, rouge, and lipstick.
6. How much do you spend for cosmetics? Try to compute your annual expenditure. Compare lists. How many members of the class consider that they get good values for their money?
7. Collect cosmetic advertisements. Classify these in two groups: those which give real information to the consumer and those which are noninformative.
8. Discuss ways in which the Federal Food, Drug, and Cosmetic Act helps to give the consumer better value for her money when she buys cosmetics.

YOUR CONSUMER INVESTIGATIONS

1. Appoint a member of your class to write to the Department of Health in your state and ask for a copy of any state laws regulating the sale and manufacture of cosmetics.
2. Observe how well the state and federal laws dealing with cosmetics are enforced in your community.

3. Appoint committees to investigate prices of the following cosmetics:

- a. Dentifrices sold in the ten-cent store.
- b. Dentifrices sold in the drug store.
- c. Face powders sold in the ten-cent store.
- d. Face powders sold in a department store.
- e. Cleansing creams sold in the ten-cent store.
- f. Cleansing creams sold in the drug store or a department store.

Remember that prices must include quantities. Judge quality as well as you can.

4. Report any interesting experiences in trying to secure information about ingredients used in soap or other cosmetics.

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HOUSEHOLD EQUIPMENT—LARGE AND SMALL

IN EVERY home there are dozens of articles which are considered necessary to the well-equipped household. These articles range from small things, such as kitchen knives and soap dishes, to large things, such as stoves and refrigerators. Some of them cost a few cents and others cost many dollars, but they all cost money. The purchase of each article of household equipment involves the selection of good quality and the consideration of price. Obviously, it is not possible to discuss all the different articles of household equipment which are customarily found in a home. This chapter will include the discussion of six types of household equipment—kitchen knives, pots and pans, stoves, vacuum cleaners, electric irons, and washing machines. See how many of the questions you can answer in the test below. (*Do not write in the book.*)

CONSUMER QUIZ

1. Stainless steel knives hold a keen cutting edge. True or false?
2. What is the indication of a forged knife blade?
The manufacturer's label
The taper from the handle to the tip of the blade
The long, fine curves in the shape of the blade
The tool marks on the blade
3. A flexible blade is desirable for all kitchen knives. True or false?

4. What is the sign of poor-quality kitchen enamelware?
Air bubbles Weight Color Low price
5. Glass cooking utensils will crack under sudden change of temperature. True or false?
6. Heavyweight electric irons are always more efficient than lighter weight irons. True or false?
7. What does a UL gold label on an electric connecting cord mean?
High price Gold wire Sturdy construction
8. An efficient vacuum cleaner will remove 100 per cent of the dirt from a rug. True or false?
9. The vacuum-cleaner bag helps to produce good suction. True or false?
10. Match the terms in the second column with the articles in the first column to which they are related.

Kitchen cutlery	Sole plate
Kitchen utensils	Spinner
Gas ranges	Open coil unit
Electric stoves	High carbon steel
Electric irons	Straight sides
Washing machines	Nozzle
Vacuum cleaners	AGA

THE SELECTION OF KITCHEN CUTLERY

The quality of a kitchen knife depends upon the kind of steel from which the blade is made, how the blade is formed, the kind of material in the handle, how the blade and handle are joined, and the shape and size of the blade and handle.

High carbon steel makes the best-grade knife blades because it is tougher and harder than steel with low carbon content. The carbon content in steel is measured in points. Each point is a hundredth of one per cent. Steel containing 90 points carbon really contains 0.90 per cent carbon or nine-tenths of one per cent. Very fine knife blades are made from steel with 90 to 110 points carbon. Medium-grade knife blades are made from steel with 60 to 70 points carbon.

Knife blades made from steel with less than 50 points carbon are of poor quality.

High carbon steel is desirable for knife blades because it takes a keen edge and holds it well. When you buy a kitchen knife ask the salesman about the carbon content of the blade. Many salesmen will not know the answer, but when they realize that consumers really want to know about this hidden value, they will be prepared with the facts.

Stainless steel is used for some knife blades, but these knives never have as good cutting edges as high carbon steel. The stainless steel is made from an alloy of steel, nickel, and chromium. The stainless iron used for some knife blades is made from an alloy of chromium and iron. A blade which is stamped "Stainless" may be either iron or steel. The *stainless-iron* blade is inferior to the stainless-steel blade because it has a lower carbon content. Stainless blades hold a high polish, but they will not take and hold a good edge. When you buy a knife decide whether it is more important to have a keen cutting edge or a shiny surface that will not rust.

Knife blades are made by three methods—stamping, beveling, and forging. *Stamped blades* are made by cutting the knife blades from a sheet of metal of uniform thickness. The cutting is done by stamping out the shapes of the blades. Different qualities of metal may be used for stamped blades. Stainless iron, stainless steel, or fairly good carbon steel may be used for stamped blades. After the blade is stamped out of the metal, it is tapered along the cutting edge by grinding. The rest of the blade is of uniform thickness.

Beveled blades are cut from a sheet of steel which is thicker through the center and thinner at the edges. Two blades are cut, back to back, from each piece of beveled steel. This makes a blade which is thicker at the back and thinner at the cutting edge. This tapering blade offers less resistance in cutting than does a stamped blade which has only a slightly tapered cutting edge. The quality of the blade depends upon the kind of steel used. A great many average-quality knives are beveled.

Forged blades are the most expensive because they require individual attention. After the blade is formed by forging, it is hardened and tempered. It is hardened by heating to a certain temperature and then cooled quickly by plunging into water or oil. After the blade is hardened it must be tempered or else the metal is left too brittle. The tempering consists of heating again to a lower temperature than in hardening and then cooling slowly. Next the blade is ground, often under water to prevent drawing the temper, and then finished by sharpening and polishing.

The forged blade generally tapers from the back to the cutting edge like the beveled blade, and also tapers from the handle toward the tip of the knife. Forged blades are best in quality.

The *material in knife handles* should be tough, smooth, and nonabsorbent. Fine-grained woods, such as ebony, rosewood, and beechwood, are commonly used. These woods require no finishing except smoothing and polishing. Painted or varnished handles are not desirable because the paint and varnish are sure to chip and peel off with continued use and washing. Plastic handles are generally not satisfactory because they are inclined to split with the hard use which is the lot of the kitchen knife.

Handles and blades should be firmly joined. The handle may be made in one or two pieces. The shank of the blade, which is called the tang, is inserted in the middle of the one-piece handle or held between the two pieces of the other handle. In either type of handle, the tang should extend the full length of the handle and be held firmly in place by rivets. There should be at least two rivets in each handle. The weakest type of joining is that in which the tang is held in place merely by driving it into the end of the handle.

Some knives are reinforced with a shoulder, bolster, or ferrule at the joint of the blade and handle. The shoulder is the best type of reinforcement and occurs only on forged blades because it is made in one piece with the blade. You may be sure that a knife with a shoulder has a forged blade.

The bolster is a kind of collar which is cast between the blade and the handle after they are joined. The ferrule is a collar made of pressed steel metal which is slipped over the end of the handle next to the blade. This is the cheapest type and often becomes loose, allowing dirt and water to get underneath it.

The shape and size of the knife handle are important. The handle should fit comfortably into the hand. If the handle is too small the hand becomes cramped. If the handle is too short the fingers are likely to extend down upon the blade. When selecting a knife always try the handle in your hand. This is one point which you can determine for yourself. The knife should also seem well balanced as you hold it in your hand. The size and shape of the blade depend upon the use of the knife.

TYPES OF KITCHEN KNIVES

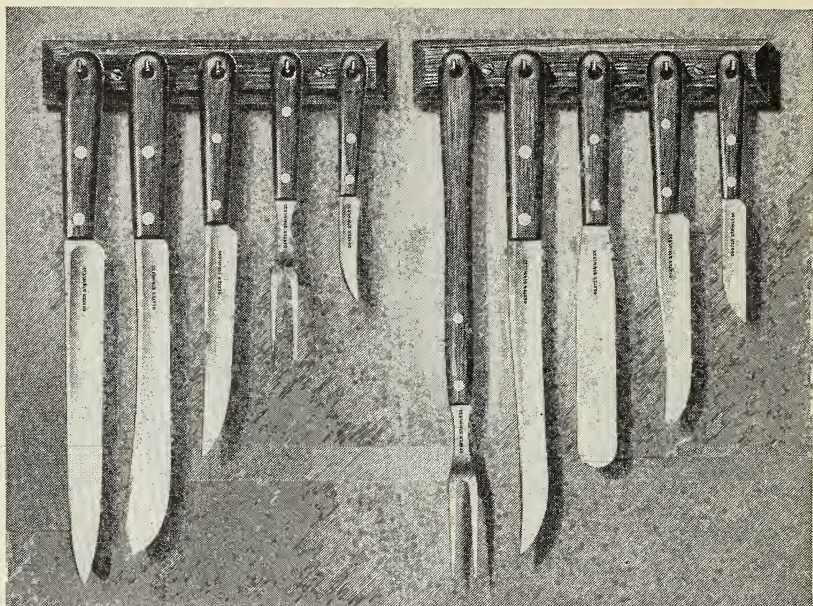
The well-equipped kitchen should have at least four different types of knives.

The *paring knife* is useful for paring vegetables and for slicing the smaller vegetables and fruits. It has a short, pointed blade. The point may be spear-shaped, sharp, or have a clip point. Each of these types is efficient and will prove equally useful in such jobs as removing the eyes of a potato. The blade should be from 2½ to 3 inches long.

The *carving knife* is needed for slicing hot meat and may be used either in the kitchen or in the dining room. The blade should be stiff, thin, and about 9 inches long. The point should be long and thin in order that the knife will cut well around the bones and joints. A forged knife of high carbon steel is most satisfactory for the carving knife.

The *cook's knife* is similar in type to the carving knife and may be selected to serve the same purpose. It has a stiff, strong blade about 8 inches long.

The *bread knife* has a thin, broad, flexible blade about 7½ to 8 inches long. Some bread knives are made with sawtooth



Courtesy Russell Harrington Cutlery Company

This set of kitchen cutlery includes (reading from left to right) a slicer, narrow butcher knife, fruit knife, fork, paring knife, pot fork, slicer, spatula, utility knife, and paring knife.

or serrated edges. These edges are self-sharpening. Other bread knives are made with a straight cutting edge. These knives should be made from a hard, high-carbon steel, because cutting bread dulls the edge very quickly.

The *utility knife* has a semiflexible blade about five or six inches long. It is useful for boning meat or fish and for slicing large vegetables or fruits.

The *slicing knife* has a long, thin, narrow, flexible blade. It is useful for slicing very thin slices of cold meat, bread, or cake.

If you cannot have all the knives you want in your kitchen choose the three or four types that will answer most of your needs.

1. A paring knife for preparing small vegetables and fruits.

2. A carving knife or cook's knife for slicing hot meat (stiff blade).

3. A utility knife or slicing knife for slicing cold meat and cutting up large vegetables and fruits (flexible blade).

4. A bread knife if you slice your own bread or for use in slicing cold meat and vegetables, instead of a utility or slicing knife.

POINTS ON CHOOSING A KITCHEN KNIFE

Answer these questions when you select a kitchen knife.

1. What type of knife is most needed in the kitchen?
2. What kind of steel is used in the blade?
3. What kind of material is used for the handle?
4. Are the blade and handle firmly joined?
5. How was the blade made—stamped, beveled, or forged?
6. Is the knife comfortable in your hand?

THE SELECTION OF POTS AND PANS

Good quality in kitchen utensils depends upon several things. Durability is important. We do not wish to spend our money for utensils that will lose their shape, or that will chip, pit, scratch, or warp. Suitability to use is also important. Utensils which are easy to handle and easy to clean are most desirable. Efficiency is most important of all. The best pots and pans heat quickly and distribute the heat evenly. Durability, suitability to use, and efficiency in cooking utensils is affected by the materials from which they are made and by the way in which they are made.

THE MATERIALS IN POTS AND PANS

Aluminum utensils of good quality are satisfactory for use both on the top of the stove and in the oven. Aluminum absorbs heat readily and distributes it evenly. It is advantageous to cook with pots and pans which heat quickly because it saves time. It is also advantageous to use utensils which dis-

tribute the heat evenly because there is less danger of scorching and burning in "hot spots." Aluminum is light in weight and makes cooking utensils that are comparatively easy to handle. It does not rust or chip, which is certainly an advantage in a cooking utensil.

The chief disadvantage to aluminum cooking utensils is their tendency to become discolored by alkalis. Such stains can generally be removed by scouring with a fine abrasive and boiling an acid solution in the pan. However, caring for aluminum utensils is not difficult. Another disadvantage of aluminum is "pitting." The poor grades of aluminum are likely to develop roughened surfaces, and even the best grades of aluminum may become "pitted" if foods are left in them for any length of time.

Aluminum utensils are made by two methods—casting and stamping. Cast aluminum makes the best pots and pans. The molten metal is poured into forms which shape the utensil. Cast aluminum is heavier than stamped aluminum and, therefore, is especially suitable for skillets, Dutch ovens, heavy stewpans, and pressure cookers. Stamped aluminum utensils are made by stamping or pressing sheet aluminum into the desired shapes for pots and pans. Utensils made from thin sheet aluminum are not so sturdy as those made from heavier sheet aluminum. The heavy-gauge stamped aluminum is durable and holds its shape very well. The lightweight stamped aluminum utensils lose their shape quickly by warping and are easily dented.

There is no scientific evidence to indicate that cooking with aluminum utensils will cause any form of illness. A great many people have believed that cooking with aluminum was dangerous to their health, but scientists have found this to be untrue.

Enamelware is made by fusing the enamel onto a steel or iron base. The enamel is really a kind of glass, and poor qualities chip and break quite easily. A slight bump or a quick change of temperature may cause the enamel to crack and chip off. Good enamels resist chipping and are considered

durable. However, there is no enamelware which is entirely crackproof. When you are selecting enamelware, avoid that which shows air bubbles or spots where the base is exposed. Enamelware is made with one, two, or three coats of enamel. The triple-coated enamelware is best. This is a point on which you can ask for information.

Good enamelware is easy to keep clean. It does not stain or discolor from food acids or alkalies, but low-grade enamelware may do so. Stirring with a metal spoon will discolor all enamelware and it is best to use a wooden spoon with enamelware utensils.

Enamelware absorbs heat readily but is a poor conductor. The heat does not spread as evenly and quickly throughout the utensil as it does with aluminum. Hot spots are likely to develop where there are thin places in the enamel. For this reason it is important to choose enamelware which has a thick, smooth, even coat of enamel.

Ironware utensils are especially desirable for long, slow cooking. Iron heats slowly, but it holds the heat well. It is extremely durable and less expensive than most other materials used for kitchen utensils. Heavyweight iron skillets and Dutch ovens are ideal for use in long, slow cooking because the heavy iron spreads and retains the heat so well.

Some people object to iron utensils because they may rust. However, if the utensils are "cured" when new and are properly cared for, the iron will not rust.

Tinware utensils are considered desirable for baking tins. Tinware is made by coating sheet iron or steel with pure tin. The thickness of the tin coating is important. If it is thin, there may be tiny holes which permit water to reach the iron or steel base. If this happens, the tinware will corrode and rust. Strong food acids will eat away the tin.

Tinware absorbs heat quickly and spreads the heat evenly. While it is not so easy to care for as some other materials, it has the advantage of being very cheap.

Stainless steel utensils are very expensive but also very durable. Good stainless steel will last for a lifetime. Like

heavy iron, it heats slowly, but does not spread the heat well, which means that care must be taken to prevent scorching. It may discolor with excess heat, which spoils its appearance somewhat but has no effect on its efficiency. It does not scratch easily and is easy to clean.

Earthenware and glass utensils are used for cooking both in the oven and on top of the stove. The scarcity of aluminum during the Second World War encouraged the use of these materials in pots and pans. Heatproof earthenware and glass utensils will not crack from high temperatures, but sudden temperature changes cause damage. It is unwise to take a glass dish from the oven and set it in the refrigerator, to let cold water run upon it, or to set it in a cool draft of air. Glass saucepans and double boilers have an advantage over those made of any other material. Without lifting the cover you can see how the food is progressing. Both glass and earthenware are easy to clean and care for.

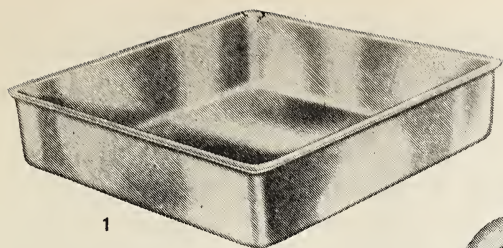
HOW POTS AND PANS ARE MADE

The construction of a kitchen utensil has much to do with its ease of handling, ease of cleaning, and efficiency.

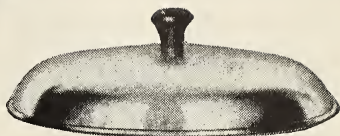
The shape of the utensil is important. Pans should have broad flat bottoms so as to make direct contact with the heat from the stove burner. Sides should be straight, not bulged or flared. Straight sides take up less room on top of the stove and have smaller radiating surfaces to give off heat.

Corners between the sides and the bottom should be rounded for quick and easy cleaning. Top edges should also be well rounded. Tops which are finished plain are the easiest to keep clean. Rims should have no cracks or crevices in which grease and dirt can collect.

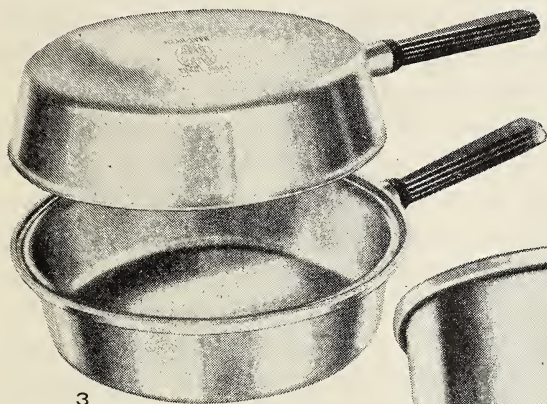
Lips on saucepans and similar utensils make it easier to pour the contents. Double-lipped pans are best because one may wish to hold the pan in either hand when pouring. The most efficient lip is sharp and fairly large, not small and rounded.



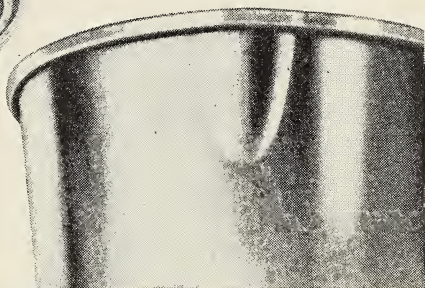
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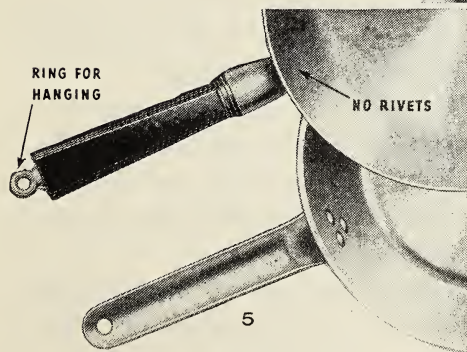
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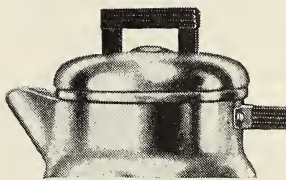
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Courtesy Aluminum Cooking Utensil Company

Look for good construction in your pots and pans. (1) Rounded corners. (2) Dome-shaped lid allows more space. (3) Broad, flat bottom with straight sides. (4) Lip for easy pouring. (5) Welded handle is better than riveted handle. (6) Close-fitting lid.

Spouts on such utensils as coffeepots may be welded, riveted, or crimped. A welded spout is part of the utensil itself and is easy to clean. A riveted spout may be durable, but it is more difficult to clean because of the uneven surface and corners where the spout is joined to the utensil. Crimped spouts are less durable. They are cheapest to make, because the edges of the spout are simply pressed or crimped to the side of the utensil.

The shape of the spout is important for efficient pouring. The best type of spout has high sides to prevent spilling and is long enough to control the stream of liquid easily.

Handles may be welded or riveted to the utensil. The welded handle is part of the pan itself and has no uneven places or corners which make cleaning more difficult. Riveted handles sometimes loosen and allow water to seep through the rivet holes. However, a well-riveted handle is considered durable.

Handles should be made of a material which does not conduct heat readily. Wood and plastic handles are satisfactory. The handles should include a metal shank which extends out from the side of the pan. This prevents the handle from getting too hot and burning.

Handles should be designed so as not to destroy the balance of the pan or pot. A long, heavy handle sometimes causes a pan to tip in the direction of the handle.

Lids should be made to fit closely. Loosely fitting lids allow a great deal of evaporation from boiling liquids. Covers should be made with a flange which fits inside the top of the pan or in a special groove. Lids which merely rest upon the top edge of the pan are less efficient.

Lids should be fitted with a knob made of wood or plastic material which makes it easy to lift the cover without burning the fingers.

POINTS ON SELECTING KITCHEN UTENSILS

Consider the following points in selecting your utensils.

1. What material is best for the type of utensil you need?

2. Is the quality of the material good?
3. Is the utensil shaped well?
4. Is the utensil so constructed that it is easy to clean?
5. Is it easy to use?
6. Will the utensil perform efficiently?

THE SELECTION OF A KITCHEN RANGE

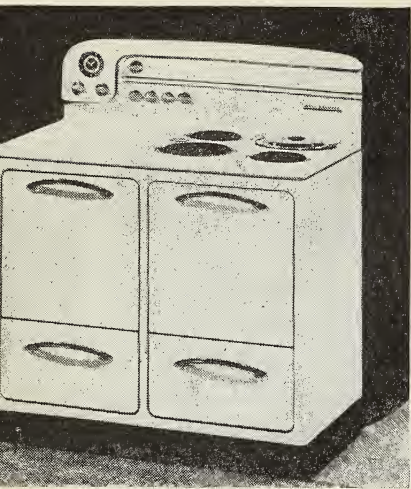
Kitchen stoves or ranges vary somewhat according to the kind of fuel which they burn. Electricity, gas, gasoline, kerosene, wood, and coal are the fuels generally used. Each type of stove must have the right kind of heating unit for the fuel to be used. However, all kitchen ranges have many things in common. We will discuss the general construction of cooking stoves, the materials from which they are made, their design, convenience and efficiency in use. Since gas and electric stoves are used very extensively we will discuss also the heating units for these two types.

CONSTRUCTION OF A KITCHEN RANGE

The frame of the cooking stove should be strong and durable. Most stoves are now made from iron, steel, or malleable cast iron, finished on the outside with porcelain enamel. The enamel is smooth, highly glazed, and easy to clean. Good enamel is resistant to cracking and stains from food acids. Since you cannot tell about this quality from looking at the enamel, you will have to depend on the word of the manufacturer.

The oven should also be finished with enamel. Nonrusting enameled steel is most desirable. A great deal of moisture escapes from the foods baked in the oven, and the oven lining will rust if iron or steel is left exposed.

Seams joining the parts of the stove should be tight and smooth. The nuts and bolts should be concealed. Smooth construction makes cleaning much easier. Corners should be rounded for easy cleaning. There should be as few seam cracks, depressions, ripples, or raised decorations as possible.



Courtesy Westinghouse Electric and Manufacturing Company

An electric table-top stove, with four burners located at the right.

Door hinges, springs, and latches should be strong and durable. Hinges should be concealed. If the door swings to one side it should stay open without being held. Doors should fit tightly so as to conserve heat.

Ovens should be well insulated to retain heat. The insulation should be of glass or rock wool, spun glass, asbestos, or other material that will not burn, and should be at least two inches thick. Always ask for detailed information about the oven insulation. Insist upon knowing what insulation was used and how much insulation was used. Knocking on the top, sides, and door of the oven will tell you whether the oven is in-

insulated or not. A hollow sound means little or no insulation. A solid sound means some insulation, but it does not tell you how much or what type was used.

GENERAL DESIGN OF A KITCHEN STOVE

There are three general types of kitchen stoves now available—the box or apartment type, the cabinet or console type, and the buffet or table-top type. The type which you buy will depend both upon the size of your pocketbook and the size of your family.

The box or apartment type of stove is smallest and least expensive. It has three or four burners with the oven directly below the burners. It occupies less space than the other types of stoves.

The console or cabinet type of stove generally has four burners with a raised oven at one side. The broiler oven is

below the baking oven and the same burner is used to heat both ovens. There generally is a utility drawer below the burners.

The table-top or buffet type of stove is made with a smooth table surface to one side and on the same level as the burners. Sometimes the table surface is in the middle with two burners on each side. The oven may be under the burners or under the table top. There are one or more utility drawers beside the oven. The broiler oven may be under the baking oven, but since this places it at a very low level it is not very convenient to use. In some buffet-type stoves the broiler oven is beside the baking oven with a special burner.



Courtesy American Stove Company

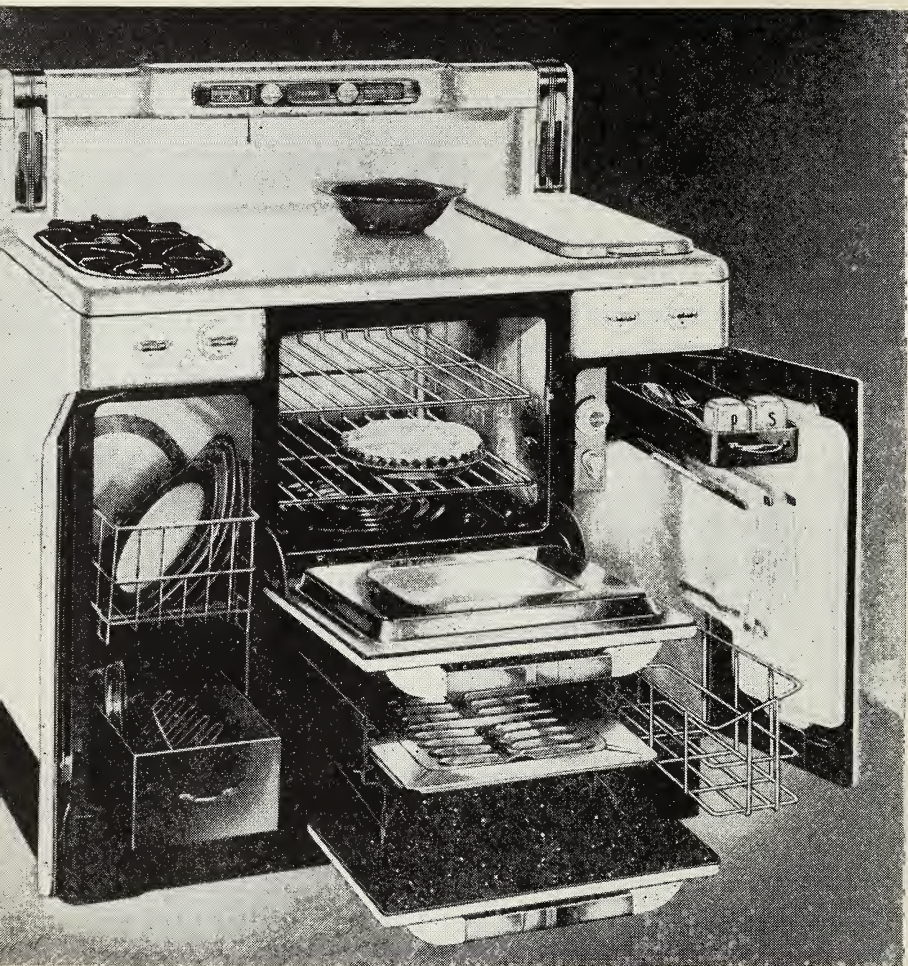
A gas table-top stove with divided burners.

Each type of stove has its advantages. The box type is inexpensive and does not require much space. The console type is not popular today and is not made by all manufacturers. Its chief advantage is the height of the oven, which makes it possible to put things in without stooping. The table-top type of stove is most popular. The lower oven in this type requires one to stoop, but the table surface is very convenient for use in preparing foods and keeping extra pans of food when the burners are all in use.

When you buy a stove, decide first what general type suits your needs. Then consider the design of the oven, broiler, and top burners.

POINTS IN OVEN DESIGN

The following points should be carefully considered in judging the oven.



Courtesy the Tappan Stove Company

An open stove showing an enamel-lined oven and various storage conveniences.

1. Is the oven large enough for your needs?
2. Are the oven racks spaced right for the pans which you will use?
3. Are the racks adjustable?
4. Do the racks tip when pulled out so as to spill food?
5. Is the oven conveniently located for height? Is it at the more convenient side of the burners?

6. Is the oven lined with rustproof enamel?
7. Are the side racks removable for easy cleaning?

POINTS IN DESIGN OF THE TOP BURNERS

Check the following points in regard to the design of the top burners.

1. Are the burners located so that the hand is not easily burned when reaching for a pan?
2. Is the number of burners adequate for your needs?
3. Are the burners spaced far enough apart so that pans and skillets can be centered over each burner?
4. Are the burner units designed so that they will not be clogged if food boils over?

POINTS IN BROILER-OVEN DESIGN

The following questions should be kept in mind in judging the design of the broiler oven.

1. Is it large enough to make all the toast you wish to make at one time?
2. Is it located at a convenient height?
3. Does the broiler pan pull out easily so that food can be turned without danger of burning the hands?
4. Is the rack designed so that small pieces of food will not slip through?
5. Is the pan easy to clean?
6. Will the melting fat drain away from the direct heat so as to avoid smoke from burning fat?

OF WHAT VALUE ARE THE SPECIAL FEATURES?

Nineteenth-century cooks certainly would have been amazed at the gadgets with which our modern stoves are fitted. Pilot lights, thermostat oven controls, time clocks, lights, and special salt and pepper shakers are features which the cooks of today take for granted. Just how much bet-

ter is the food cooked with these special gadgets? Perhaps the food is no better, but some of these gadgets do make cooking much easier.

The automatic heat control on the oven is surely a great convenience and probably saves much food from being ruined. Just how much we pay for these special features is a question that interests consumers. Experts agree that the heat regulator for the oven is worth its cost.

The time clock which will turn the heat on and off at fixed times is useful when the cook wishes to have an oven meal and cannot be at home at the time the oven should be turned on. However, the time clock is hardly worth its cost unless there are frequent occasions when no one is available to turn the oven on and off. The automatic time clock gives a fine opportunity for sales talk. Consider carefully whether the money which you might pay for a time clock will bring you greater value if spent for some other purpose.

Pilot lights on gas stoves are very convenient, but they also have certain disadvantages. They add heat to the kitchen and help to run up the gas bill. Decide whether you prefer to use matches to light your burners or to pay for the additional gas and ignore the extra heat.

Lights above the cooking surface are not always placed so as really to throw light into the pots and pans. Frequently, they are placed so low that they only make shadows and reflect a glare from the enameled surfaces. If your kitchen is well lighted, it is hardly necessary to pay for extra lights on your stove.

Condiment sets, with shakers for salt, pepper, sugar, and flour, add slightly to the cost of a stove but are useful and give considerable satisfaction because of their nice appearance and convenience. However, you should not be persuaded to buy a particular stove merely because of an attractive condiment set.

There are several other special features which are added to certain ranges in order to provide extra conveniences or better appearance. Built-in griddles, deep-well cookers, cov-

ers for the top burners, and back rails may or may not be worth the extra cost to you. Everyone must decide which special features are worth the extra price. The function of a kitchen stove is to cook food. It should perform efficiently and be convenient to use. The stove is not a piece of fancy furniture. It is strictly utilitarian. Of course, it may also be attractive, but primarily it is for the purpose of cooking food. Remember these things when you buy a stove and select one which will perform the service which you require. Do not be persuaded by special features which you will not use enough to pay for their cost.

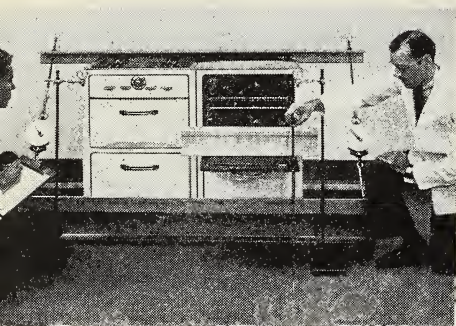
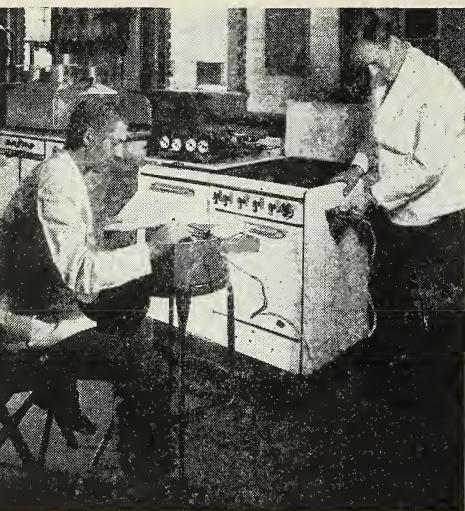
THE BURNERS ON A GAS RANGE

There are several types of burners for gas stoves. The die-cast burner is made with part of the burner head removable. The little holes which emit the gas are in the removable part. This makes cleaning easy when food boils over and clogs the holes.

The round cast-iron burner is made entirely of cast iron with no removable part. The ribbon-flame burner is made with a slit all around the burner so that the flame makes a continuous ribbon. The eight-arm, star, and daisy burners are all cast in one piece with no removable parts. These burners are not used to any great extent.

HELP FOR THE CONSUMER

The American Gas Association awards a seal of approval to gas appliances that are safe and satisfactory in construction. This association maintains an Approval Requirements Committee which includes representatives from the National Bureau of Standards, United States Public Health Service, National Safety Council, and other agencies. Most manufacturers of gas appliances send their products to the testing laboratories of the association where they are tested for safety and construction. Accepted appliances are awarded the blue star AGA seal. Look for this seal when you buy a gas stove.



Courtesy American Gas Association Testing Laboratories

Testing the quality of construction in gas ranges in the laboratories of the American Gas Association.

The Association of Gas Appliance and Equipment Manufacturers awards another seal, the Certified Performance Seal, to kitchen ranges of superior quality. This is known as the CP seal and is shown on page 261.

Both the blue star AGA seal and the CP seal are definite aids to the consumer who is selecting a gas range.

THE SURFACE UNITS IN AN ELECTRIC RANGE

There are two general types of heating units used for surface cooking on electric ranges—open and closed. The open unit consists of a spiral arrangement of heating coils. When food boils over and runs into these coils, the cleaning problem is most difficult. Food on an open coil unit may cause a short circuit and even cause an element to burn out. The closed unit may be one of two types. In one type an open-coil unit

is covered with a metal plate which protects the coils from boil-overs and dirt. In the other type of closed unit, the heater coils are encased in circular tubes or held between metal plates. These are known as the tubular-type and ring-type units.

The stove with open units generally costs less than the stove with closed units, but the expense of replacing open

units ruined by boil-overs may make the open-unit stove more expensive in the long run.

UNDERWRITERS' LABORATORIES, INC.

The Underwriters' Laboratories, Inc., does for electrical appliances what the American Gas Association does for gas appliances. Manufacturers of electrical appliances can send their products to Underwriter's Laboratories, Inc., for safety tests. The tests include checking for safety against shock and fire. Appliances which pass the test are listed as approved in a publication of approved electrical equipment and are awarded permission to use the UL label. Experienced buyers of electrical equipment always look for the UL label. You will find it on all sorts of

electrical equipment, large and small. Electric cord may carry the UL label attached to every few feet of wire. When you buy electric cord, be sure to get the right size of wire for the appliance on which you will use it. Always use a cord with asbestos insulation for heating appliances. Select a cord covered with rubber for use in damp places. The best check for quality of electric cord is the UL seal. The colors of this seal represent the various grades of cord. The gold UL seal indicates a strong cord which will stand more bending than can



Courtesy American Gas Association and The Association of Gas Appliance and Equipment Manufacturers

Both the AGA seal of approval and the CP seal are definite aids to buyers who select gas stoves.



Courtesy Underwriters' Laboratories

The UL seal is a guarantee of safety to consumers when they select electrical equipment.

be expected from any other cord. The red UL seal indicates a cord which is somewhat less durable. The blue UL seal indicates a cord for use where there is little bending. The yellow UL seal indicates a cord which is handled and bent very little, as for example on a lamp.

CONSIDER THE COST OF OPERATION

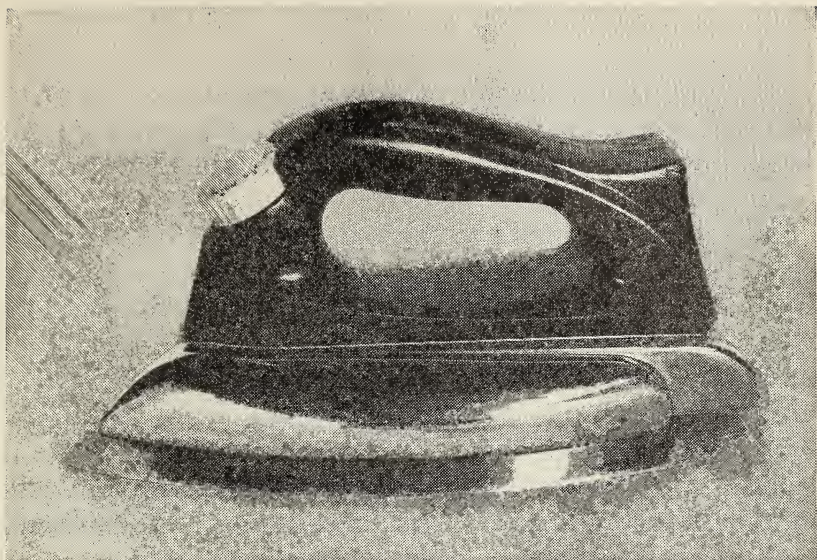
When there is a choice between a gas range and an electric range, the operating cost is a deciding factor. Before making a selection find out how much it costs to operate each type of stove in your community. It is best to get this information from people who actually operate each type of stove. You can also get figures from the gas and electric companies. Estimate the cost of operating each type of stove for a year, and then add these operating costs to the prices of the stoves.

THE SELECTION OF AN ELECTRIC IRON

An electric iron should be safe and easy to use, it should do its work well, and it should last for many years. The buyer should know how to check on these points before making a purchase.

TYPES OF HEATING ELEMENTS IN IRONS

The type of heating element has considerable effect on the durability and the price of an electric iron. There are three types of elements, and you should know which type you are getting when you buy an iron. If the salesman does not know what type of element is used in the iron you are



Courtesy Westinghouse Electric and Manufacturing Company

A good electric iron shows these features: a well-balanced handle, beveled edge, heel rest, and automatic temperature control.

considering, ask him to find out. If necessary he can take the iron apart and show you how the element is constructed. Then you can better judge price and quality.

1. The least-expensive irons are made with elements of wire coils in grooves of a porcelain insulating brick. This type of element is less durable than other types and may be worn out by the heating and cooling of the iron. If the iron accidentally falls on the floor a wire may snap. Steam from pressing clothing may cause the wires to corrode. However, this type of element may last for several years.

2. Medium-priced irons have elements made by winding metal ribbons on mica sheets. These irons often carry guarantees for 3 to 5 years and generally they last much longer.

3. High-priced irons have elements with wire coils embedded in the insulating material. This makes them safe from breakage and from moisture. These irons sometimes carry a lifetime guarantee.

All irons must be insulated so as to protect the upper part of the iron and the handle from heat, and also to throw the heat down onto the sole plate. The quality of the insulation is important.

The sole plate should be thick enough to hold the heat. It should also be smooth, rustproof, and scratchproof. In cheap irons the sole plate is thin and may scratch easily. Avoid a thin plating which may peel off.

The sole plate should be pointed and should have a beveled edge. This makes it easier to iron around buttons and into gathered parts of garments. About 25 square inches is considered the right size for the sole plate. Larger irons are difficult to use in small spaces, and smaller irons require too many movements of the arm to cover the area being ironed.

The weight of the iron may vary from about 3 to 6½ pounds. Formerly it was thought necessary to use a heavy iron and exert pressure in order to do good ironing. Experimentation has proved that a well-padded ironing board and properly dampened garments are more important than the weight and pressure of the iron. Lightweight irons do just as good work as heavy irons when properly used. Why push around a heavy iron if you do not have to?

The handle of the iron should fit the hand comfortably. A handle which is longer than the palm of the hand and large enough so the hand does not close around it is generally more comfortable than a short, thin handle. Handles should be constructed so that the hand cannot touch any metal parts. Good materials for the handle are hardwood, molded rubber, cork, and plastics.

The best-shaped handles are sloped and placed so that the hand comes slightly back of the center of the iron, thus making it easier to manipulate the iron.

The heel rest is a convenient feature. It requires much less effort to tip an iron back on its heel than to lift it onto a standard.

AUTOMATIC TEMPERATURE CONTROLS

Many irons are made with automatic temperature controls. A dial on the upper part of the iron permits the user to set the control for different temperatures. Some dials are marked "high," "medium," "low." Others are marked with names of textile fibers—"cotton," "linen," "silk," "rayon," and "wool."

The temperature control adds to the cost of an iron, but generally it is worth more than its cost. It saves electricity, because the iron never uses more electricity than is needed. If forgotten, the iron does not overheat, thus damaging the heating element or starting a fire. The automatic control may prevent scorching with a too-hot iron, and it therefore saves your clothes. It is also much more convenient than a nonautomatic iron which requires constant attention to prevent it from getting too hot or too cold. Uniform temperatures also help to prolong the life of the heating element.

WHAT IS THE WATTAGE OF THE IRON?

The average wattage for household irons is from 600 to 1,000 watts. Irons with low wattage are slow to heat and may not stay hot enough to do efficient ironing. Irons with 800 to 1,000 watts heat quickly and maintain the required temperature during continuous use. Nonautomatic irons are made with low wattage because it is difficult to control temperatures in high wattage irons without an automatic control. Automatic irons are made with high wattage, and they therefore heat speedily and maintain an even temperature while in use.

Always inquire about the wattage of the iron you intend to buy. You should know what to expect in speed of heating and in maintaining an even temperature.

GOOD QUALITY IN IRON CORDS

The cord for an electric iron must stand a great deal of bending and flexing. A cord bearing the UL red label is

GUARANTEE

Heatmaster

We guarantee this iron to give you perfect satisfaction. If for any reason, whatsoever, this iron fails to give you the service you have a right to expect, return it to us. We will replace it with a brand new iron, charging you only 10¢ for each month you have had it.

NO.
2L535

S.L. DIV.

1000-WATT • SUPER DUTY

AUTOMATIC IRON

Unconditionally Guaranteed

For Five Years

116.6218

SOLD ONLY BY

SEARS, ROEBUCK AND CO.

CASH PRICE

USE SEARS EASY PAYMENT PLAN
on purchases totaling \$10.00 or more

- 1000-watt mica element . . . heats quickly . . . saves time . . . increases ironing speed
- Choice of 3¾ or 5¾ pound weight
- Natural grip handle lessens wrist fatigue . . . stays cool
- \$1.25 "Retracto" cord set included without extra cost . . . conveniently keeps cord out of way while ironing
- "Off" switch on dial . . . no need to pull plug
- Built under Westinghouse

famous "Temp-Guard" thermostatic patents . . . no temperature guesswork

- Automatic thermostat . . . controls heat . . . protects fabrics . . . prevents current waste
- Bevelled edge sole plate permits easy ironing around buttons, tucks, pleats
- Heavy chromium finish . . . stays bright . . . glides smoothly over fabric
- For 110-120 volt A.C. only
- Listed under Re-examination Service of Underwriters' Laboratories, Inc.

Courtesy Sears, Roebuck and Company

An informative label—outside (top) and inside (bottom)—for purchasers of electric irons.

guaranteed to stand 3,000 flexings, and it is generally used on the cheaper irons. The lifetime of an iron generally requires many more than 3,000 flexings of the cord. The UL gold label is generally found on cords of irons of good quality. This guarantees 10,000 flexings.

When you replace the cord on your iron remember that the UL labels indicate definite standards of wear and also safety. Remember, too, that the iron cord should be insulated with asbestos.

THE GUARANTEE ON YOUR IRON

Some manufacturers furnish written guarantees with their irons. Always ask whether there is a guarantee with the iron you intend to buy. Be sure that you find out just what is guaranteed and for how long. The salesman's word that the iron is guaranteed is not enough. A label which merely says "Guaranteed" is not enough. You should know *what* is guaranteed and for what period of time.

Look for the UL label on your iron. This label is your guarantee of safety from shock and fire hazard. Irons which are guaranteed by the Underwriters' Laboratories for safety can generally be depended upon also for durability.

SUMMARY OF POINTS ON THE SELECTION OF AN IRON

When you are selecting an iron, be sure to check on the following points:

1. What type of heating element is used in the iron?
2. Is the iron well insulated?
3. Is the sole plate of good quality?
4. Is the iron the right weight?
5. Is the iron the right shape?
6. Is the handle comfortable to use and well balanced?
7. Does the iron have a good heel rest?
8. Does it have an automatic temperature control?
9. What is the wattage?
10. Is the cord of good quality?

11. Is the iron guaranteed by the manufacturer?
12. Does it bear the UL label?

THE SELECTION OF A WASHING MACHINE

The purchase of a washing machine involves the expenditure of a rather large sum of money. The selection should be made with care. Again we are concerned with the efficiency, durability, and convenience of the product. To understand good quality in washing machines requires a knowledge of certain points in materials, construction, and safety of washing machines.

CHOOSE THE RIGHT SIZE

The size of a washing machine is indicated by the number of pounds of dry clothes or the number of sheets which it will wash at one time. The number of pounds of dry clothes is considered a more accurate way of telling the size of a machine than the number of sheets. Machines vary in size from small table models to large family-sized models. For a family of four or five the 7- or 8-pound capacity is adequate. The small table models are not satisfactory for doing the whole family wash. They are suitable only for washing out small articles.

TYPES OF WASHING UNITS

There are three basic types of washing units—the cylinder, the agitator, and the vacuum cup. In the cylinder type of washer unit, the clothes are placed in a perforated cylinder which revolves back and forth. This tosses the clothes back and forth and forces the water through the holes and onto the clothes.

The vacuum-cup type of washer unit consists of three or four bell-shaped cups which move up and down as well as in a circular direction. The cups agitate the clothes by constantly pressing down and pulling up through the water.

The agitator type of washing unit is used in a large proportion of washing machines. It consists of a central axis to which several fins are attached. The axis with the fins attached revolves back and forth keeping the clothes in motion and driving the water through them. Some fins are straight up and down and others are slanted.

There is no scientific evidence to show that one type of washer unit is any more efficient in washing clothes than the other types. Two machines with the same type of washing unit, may differ in efficiency. One machine may wash the clothes much cleaner than the other. It may also tear the clothes to pieces much faster. The violence of the action has a great deal to do with the speed with which clothes can be washed clean and also with the wear and tear on the clothes. Experts believe that a fairly gentle action is more desirable than a swift, strong action. Longer washing with the gentler action will save wear on the clothes and will also wash them clean.

THE WRINGER AND SPINNER

Most washing machines are equipped with a power-driven wringer or with a spinner which removes water from the clothes as they are taken from the tub. The power-driven wringer is a great labor-saver and a great timesaver, but it may also be very dangerous. Many accidents and even deaths have resulted when fingers, arms, and hair have been caught between the rollers of a power-driven wringer.

The wringer should be checked first of all for safety. Does it have a safety bar or button release which acts instantly? Ask to have this demonstrated. A good safety release stops the action of the rollers and also cuts the power connection. Every wringer should also have an automatic release which disconnects the power if the operator tries to pass too great a thickness between the rollers. This provides safety for fingers and hands which may get caught between the rollers.

The label of the Underwriters' Laboratories, Inc., on a

wringer is the best guarantee which you can have for its safety. Always ask if the wringer has been approved by the Underwriters' Laboratories, Inc. Even though it does not carry the label, you may find that it is included on the approved list of appliances. Ask about this point.

The rolls may be made of soft, semisoft, or hard rubber. Some wringers have one hard and one soft roll. Tests have shown that all types of rolls extract about the same amount of water from the clothes. The hard rubber rolls are more durable, but the soft rolls do less damage to the clothing. They do not crease so hard and do not break so many buttons. Soft rubber adjusts itself better to the varying thicknesses of clothing as it passes through the rolls. The semisoft rubber seems to have the advantages of both the hard and soft rubber.

Some machines are equipped with a centrifugal drier or spinner instead of a wringer. These are more expensive than wringers but have certain advantages. The clothes are placed in a "spinner basket" which whirls at high speed. The moisture is whirled away through the holes in the basket. These spinner driers are not desirable unless all the rotating parts are enclosed. A safety feature to look for is the cover which cannot be removed until the spinner has completely stopped. The spinner does not save quite so much labor as the wringer because it does not help to lift the clothes from the tub. However, there is no danger of mashed fingers with the spinner.

MATERIALS AND CONSTRUCTION OF LEGS AND TUB

The body of the washing machine should have firm and strong construction. The legs should be made of cast or pressed steel. The strongest legs are tubular in shape. Unless they are strong, the legs may bend after a time because of the continued vibration of the machine.

Tubs are made from porcelain enamel. The best porcelain enamel has had three coats of enamel sprayed onto sheet

steel. More coats may look more attractive but will make the porcelain more likely to chip and crack.

The tub should be shaped so that it curves in at the top. This prevents splashing when the cover is off and the machine is in action. The cover should be fitted with a rubber rim which will not clatter from the vibration when the washer unit is working.

THE MOTOR IN YOUR WASHING MACHINE

Motors in washing machines are $\frac{1}{4}$ H.P. in size and rotate at about 1,725 revolutions per minute. Most consumers do not understand electric motors well enough to judge their quality. The best guide in the selection of the motor is to ask for a manufacturer's guarantee on the motor. Remember that a real guarantee states what is guaranteed and for how long.

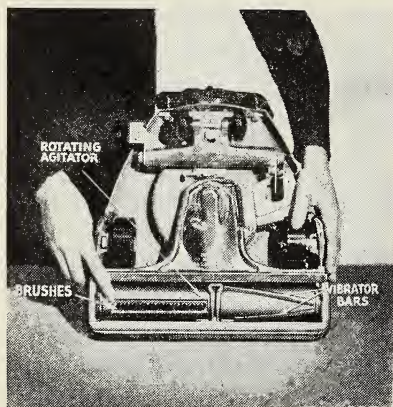
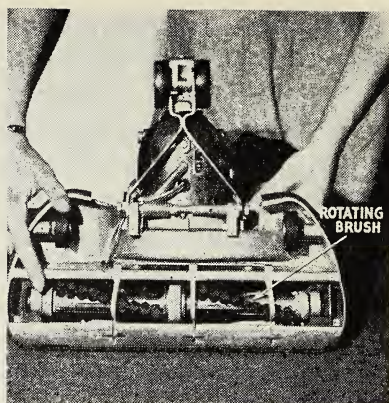
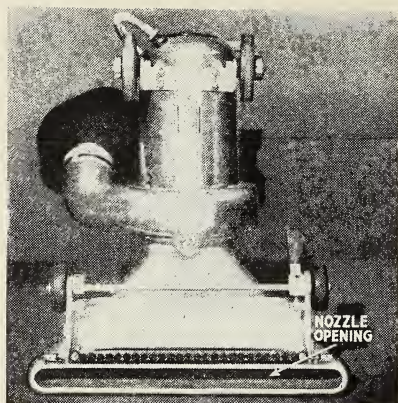
THE CONNECTING CORD ON YOUR WASHER

The cord on your washing machine should be insulated with heavy, flexible rubber. It should bear the UL label. The danger of shock when using a washing machine is greater than when using most other electrical appliances, because of the presence of water. All electrical parts as well as the connecting cord should be completely insulated.

THE SELECTION OF YOUR VACUUM CLEANER

The purchase of a vacuum cleaner requires the expenditure of a large sum of money. Some vacuum cleaners cost much more than others; however, the price of the vacuum cleaner has little to do with its quality. Investigations have shown that a vacuum cleaner costing less than fifty dollars may be just as efficient and last just as long as one which costs more than twice as much.

There are three requirements for a good vacuum cleaner—safety, efficiency, and durability. It should be safe to use, remove dirt quickly and effectively, and last for many years.



Courtesy The Hoover Company

The nozzle openings differ in the three different types of electric cleaners. The suction-type cleaner at the top, left, has a nozzle opening with no bars or brushes. The nozzle opening in a cleaner with a power-driven brush is shown at the top, right. The opening of a cleaner with a rotating brush and vibrator bars is shown at the left.

The consumer wishes to obtain these qualities for the least possible money. Vacuum cleaners are not labeled as to their safety, efficiency, and durability. There is no minimum standard which they must meet. Again the consumer must depend on his own knowledge and upon answers to questions asked of the manufacturer. Perhaps the time will come when vacuum cleaners, washing machines, and similar pieces of equipment must be made to conform with minimum standard requirements as in the case of canned goods today.

TYPES OF VACUUM CLEANERS

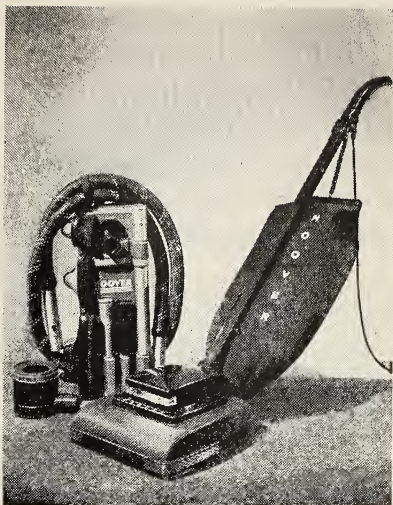
All vacuum cleaners have four major parts—the nozzle, the fan or turbine, the motor, and the bag or other dirt con-

tainer. The nozzle is the part which is pushed around on the floor to pick up the dirt. The nozzle lips should be so formed as to make a good seal with the floor covering. This insures more effective removal of dirt. The motor furnishes the power which turns the fan or turbine. The fan creates the suction which pulls the dirt into the vacuum cleaner. The dirt container holds the dirt until emptied. The dirt container should not be airtight because the air which is sucked into the cleaner carrying dirt with it must escape. It can do this

through the bag or other container leaving the dirt inside.

In some cleaners the nozzle, motor, and fan are all built into one unit which is pushed around the floor. In other cleaners the nozzle is located at the end of a hollow tube which serves as the handle. A flexible tube runs from the top of the handle to a cylinder containing the motor, fan, and dirt container. In this case only the nozzle is pushed around the floor. The cylinder is moved whenever necessary to let the nozzle cover the area to be cleaned. This type of cleaner with the separate nozzle is useful for reaching into small places and under furniture.

Cleaners are grouped into two general types depending upon the principles of cleaning which are employed. The *straight-suction* type of cleaner removes dirt only by suction. There are no moving parts in the nozzle. All cylinder vacuum cleaners are straight-suction cleaners. Some upright cleaners—having the nozzle, fan, and motor in one unit—are also suction cleaners.



Courtesy The Hoover Company

Attachments for many purposes are available with the modern vacuum cleaner.

The *second general type of cleaner* has a *motor-driven roll*. The roll is equipped with rows of brushes which sweep the floor as the motor turns the roll. This agitates the rug surface so that the dirt is easily sucked into the nozzle. Some cleaners with the motor-driven roll are also equipped with metal and rubber-tipped vibrators which beat the rug as well as sweep it.

CHOOSE THE TYPE THAT SUITS YOUR NEEDS

In general the cleaners with motor-driven brushes and vibrators are better suited to remove deeply embedded dirt from the rug. Particles of sand and grit may work down into the pile of the rug. Unless removed they will cut the pile with the pressure from shoes which step on the rug. These particles of dirt are most successfully dislodged by sweeping and vibrating cleaners. If the dirt in your rug is not deeply embedded and consists mostly of surface litter and dust, then the straight-suction cleaner can do an adequate job. The cylinder type of suction cleaner is especially suitable if you wish to use it for draperies and stairsteps as well as for the floor. Many people consider the cleaner with motor-driven rolls a good choice for the average household. Other people feel that the straight-suction type is satisfactory for the average cleaning.

When you buy a vacuum cleaner consider the need for attachments which will remove dirt from the upholstery, draperies, and bookshelves. You may also want attachments which blow disinfectant into the air and demoth the furniture. Be sure to consider whether you will use these attachments often enough to make them worth what they cost.

WHAT MAKES A CLEANER EFFICIENT?

The efficiency of a cleaner depends upon several things—the size and shape of the nozzle, the type of fan, the speed of the motor, and the type of rotating mechanism.

The *nozzle* should make good contact with the surface

that is being cleaned. Some cleaners have a mechanism which will raise or lower the nozzle to make a good seal with thick, medium, or thin rugs. Some of the more modern cleaners have an automatic-nozzle adjustment which will keep the nozzle at the right height without attention from the operator.

The nozzle should be small enough and shaped so that it will reach under heavy pieces of furniture.

The *fan* revolves at the same speed as the motor. It creates the suction which pulls the dirt into the cleaner. The design of the fan and the fan chamber are important.

The *motor* in your vacuum cleaner may revolve at a speed of 6,000 to 12,000 revolutions per minute. High speed does not always mean high suction because this depends upon fan design as well as upon the speed of the motor. Very high speed wears the motor and is not desirable from the standpoint of durability. A light motor is also not so durable as a heavy motor.

The *dirt container* acts as a filter which catches the dirt but lets the air pass through. The bag should be made of a fabric which has very tiny meshes. If it is airtight, the motor and fan cannot create a suction which will pick up dirt. It is important that the dirt container be made so as to let enough air through without creating a back pressure or letting dirt through. This should explain why it is important to empty the dirt container frequently. Dirt in the bag can create a back pressure interfering with good suction. The bag on a vacuum cleaner is made large, not to hold a large amount of dirt but to help the air to escape, thus improving suction.

TEST THE CLEANER YOURSELF

Like many other products, there are hidden values in a vacuum cleaner. However, there are some tests for efficiency and convenience which you can make for yourself. Ask to try the cleaner yourself.

1. Does the motor run quietly without too much vibra-

tion? A good motor runs quietly and without excessive vibration.

2. Listen to the speed of the motor. High-speed motors have a high-pitched sound. Remember they wear out more quickly than lower speed motors.

3. Does the cleaner pick up dirt readily? Examine the rug you have cleaned with it by bending the rug back to see into the depth. Is the dirt removed satisfactorily? No cleaner will remove dirt 100 per cent but some cleaners remove much more dirt than others.

4. Is the cleaner easy to operate? Does it move easily over the floor? Will the nozzle reach under the edges of furniture without breaking the seal?

5. Is the weight of the cleaner satisfactory to you? A well-built cleaner may be durable without excessive weight. If you must carry the cleaner up and down stairways, weight is an important consideration.

6. There are three positions for the handle of an upright cleaner. Will the handle stay in position at each of these angles?

REMEMBER TO CHECK FOR SAFETY

The vacuum cleaner is another electrical appliance which should be approved by the Underwriters' Laboratories, Inc., for safety. The cleaner should either be labeled with the UL seal or included on the approved list of appliances. The cord should bear the gold or red UL label. Cleaner cords are flexed many times, and only the stronger qualities should be used. Ask the salesman if both the vacuum and the cord are approved by Underwriters' Laboratories, Inc.

HIGH-PRESSURE SALESMANSHIP AND COMMON SENSE

Vacuum-cleaner salesmen have developed some very clever stunts with which to impress their prospective customers. Do not be impressed by these stunts unless there are real reasons.

If a salesman wants to show you how strong the suction is,

he may remove the bag to let you see how much dirt is blown through. Naturally the suction is much stronger when the bag is removed because there is nothing to create back pressure.

If the salesman uses his new machine on the same spot where you have cleaned with your old cleaner, he can show you that his machine has picked up more dirt. No machine removes all dirt from the rug. Try the stunt the other way around. Let the salesman use his cleaner first and then use your old one on the same spot. If your machine is reasonably efficient it will also pick up more dirt.

Remember that no cleaner is really effective as a device for disinfecting a room or removing germs from the floor.

Sand or flour scattered on the surface of a rug does not reproduce the condition found in a dirty rug. Dirt sifts down between the tufts of the pile.

SERVICES FOR YOUR ELECTRICAL EQUIPMENT

All types of electrical equipment will occasionally need repairs. Think about this when you buy electric irons, stoves, washing machines, and vacuum cleaners. It is important to buy equipment for which you can obtain quick and efficient service.

HOUSEHOLD EQUIPMENT IN THE FUTURE

Modern warfare affects our homes in many ways. In the Second World War one of the first government orders affecting civilian life curtailed the use of aluminum and other metals for the manufacture of household equipment. Factories which had produced pots and pans were converted to the production of airplane parts and other military equipment. This resulted in a shortage of household equipment for civilian consumers, and many of them are waiting until after the war to replenish their equipment.

A great deal has been promised to consumers in the way of new and efficient types of equipment. Manufacturers have

learned how to design in new ways and how to use materials in new ways. As a result of this experimenting we may expect to see new types of household equipment in the future. Time will of course be required to develop new designs and new processes of manufacture in peacetime years. But when new types of equipment do appear, consumers should be ready to judge them wisely. All that we have learned about old types of equipment will be helpful in selecting the newer types. Certain qualities, efficiency, durability, and convenience, at the lowest price will still be the guides for selection.

SUGGESTIONS FOR ACTIVITIES AND DISCUSSIONS

1. Arrange a day when members of the class will bring kitchen knives to class for study and comparison. Other knives, such as hunting knives, jackknives, and penknives, might also be included. Study the knives according to the points listed on page 247.

2. Arrange a day for the study of pots and pans. Secure several types of kitchen utensils and study them according to the points on pages 252 and 253.

3. Collect pictures and diagrams of gas and electric ranges. Compare these for convenience.

4. Arrange for a visit to see some good ranges.

5. Secure an electric iron which you are allowed to take apart. Study the type of heating element and insulation. Examine the sole plate, handle, cord, and decide whether the shape and weight of the iron are good.

6. Visit a shop to see different types of washing machines and vacuum cleaners.

7. Invite someone who understands electrical household equipment to talk to your class. He might be a salesman or the teacher of electric shop in your school.

YOUR CONSUMER INVESTIGATIONS

1. Appoint a committee to study prices and qualities of kitchen cutlery sold in your local stores. The committee should obtain the following data:

- a. Cost of the cheapest paring knife
- b. Facts pertaining to quality in the cheapest paring knife
- c. Cost of the most expensive paring knife

- d. Facts pertaining to quality in the most expensive paring knife
- e. Name of brand or model and manufacturer's name for each knife

Compare values in the cheapest knife and most expensive knife. What extra value do you get for your money if you buy the expensive knife?

2. Appoint committees to secure data similar to that in the first investigation for kitchen pans (decide on the type), electric stoves, gas stoves, electric irons, washing machines, and vacuum cleaners.

3. Secure data on operating costs of electric stoves and gas stoves.

4. Report any interesting experiences in buying and using household equipment where quality and price were important.

~ I I ~

GOOD FURNITURE FOR YOUR HOUSE

GOOD furniture lasts a long time. It should last a long time because it requires a large outlay of money. Most of us cannot afford to replace our furniture every few years, so when we buy furniture we should select the kind that will last for a lifetime or more. This means that our furniture must be strong and made from good wood which will stand the strain of continued use. It also means that our furniture should be pleasing in design; otherwise we will tire of it before it is worn out. It must also be comfortable and convenient to use. For all these reasons it is important to learn how to select good furniture.

First of all, try the Consumer Quiz to check on what you already know about buying good furniture. (*Do not write in the book.*)

CONSUMER QUIZ

1. The FTC requires an accurate labeling of all woods used in furniture. True or false?
2. All high-grade furniture is made with solid-wood construction. True or false?
3. One advantage of plywood construction over solid-wood construction in furniture is:
Less tendency to split and warp
Repaired more easily
More solid and heavy
4. Would you advise consumers to avoid furniture made from kiln-dried lumber? Yes or no?

5. Which joints are most suitable for use on corners of drawers?

Dado Dovetail Mortise and tenon Dowel

6. A fine finish scratches easily. True or false?

7. A "genuine walnut" label on a chest means that the frame and legs are solid walnut, and the top, end, and front panels are plywood with walnut face. True or false?

8. Which upholstering fabric is the most durable?

Rayon damask Cotton repp Woolen frieze Silk brocade

9. Which characteristic is especially important in an upholstery fabric with a pile weave?

Width of fabric Straight fibers Closeness of tufts

10. Give 5 hidden values which affect durability in a davenport.

WHAT KIND OF WOOD IS IN YOUR FURNITURE?

There are at least fifty different kinds of wood used in furniture. Most consumers are not wood experts and cannot tell by looking at the wood in a piece of furniture which of the many kinds was used. At present there is no system of labeling furniture used by all manufacturers to tell the consumer what kind of wood he is getting for his money. Generally, several different kinds of wood are used in one piece of furniture, but this information is not given to the consumer. A desk which is labeled "mahogany" may have mahogany only on the outside surfaces. Four or five other kinds of woods may be used in the veneer and in the frame of the desk. Your "mahogany" desk may be only a thin layer of mahogany on the exposed surfaces. It may still be a good desk, but your money bought much less mahogany than you may have thought. A table which was sold to you as "walnut" may have genuine walnut only on the top. The legs and underparts of the table may be made from other woods.

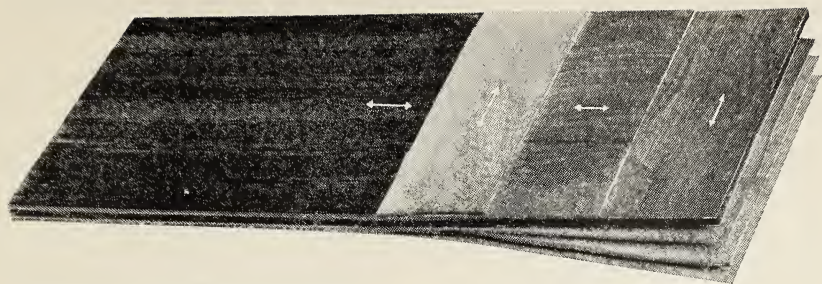
Good furniture woods have certain desirable characteristics. Furniture wood should be hard enough to resist dents

and scratches, but not so hard that it splits during the process of construction. Good furniture wood is resistant to swelling and shrinking with changes in moisture content. Much of this resistance depends on the way in which the wood is seasoned, but some woods have a greater tendency than others to swell and shrink. Good furniture wood is resistant to warping. High-grade furniture wood has a high bending strength. This is a measure of its strength and load-carrying capacity. Bending strength is important for wood that is used for chair backs, cross-bar supports, and reinforcements. The best furniture woods have a pleasing pattern or grain. Some woods are almost lacking in the grain or figure which makes a pleasing effect in finished furniture. Other woods have a great deal of grain, sometimes too much for certain purposes.

The table on pages 284 and 285 shows how some of the common furniture woods are rated for the desirable characteristics. These ratings are the result of years of scientific research by the Forest Products Laboratory of the Forest Service, United States Department of Agriculture. Furniture manufacturers and other users of wood depend upon the ratings of the Forest Products Laboratory when they order their lumber. This information is not made available to consumers. They have no way of finding out what kind of wood is used in their furniture or whether the wood is suitable for the purpose.

WHAT IS VENEERED CONSTRUCTION?

Consumers should understand the difference between solid-wood construction and veneered or plywood construction. Solid-wood construction means that each piece of wood is cut in one solid piece. Plywood or veneered construction means that some of the wood used in the furniture is made by gluing thin sheets of wood onto a thicker piece called the core. In 3-ply veneer a thin sheet of wood is glued to each side of the core. The grain of wood in the outside pieces or "faces" is always turned at right angles to the grain of the



Courtesy The Veneer Association

This picture might be called “the anatomy of plywood.” It shows “seven-ply construction” with core, cross-banding, and faces with grains running at right angles to each other.

wood in the core. In 5-ply veneer, thin sheets of wood, called “crossbands,” are glued to each side of the core. The grain of the crossbands is placed at right angles to the grain of the core. Two more pieces of thin wood are glued on the outside of each crossband. Again the grain of the faces is at right angles to the grain of the crossbands. Turning the grain of the wood at right angles in the core, crossbands and faces help to prevent warping and greatly increases the strength of the veneered wood. In 7-ply veneer there are 2 crossbands on each side of the core as shown in the illustration on this page. Note that the grain of the wood in each piece is turned at right angles to the pieces glued on each side.

Veneer construction in furniture has been used for many centuries. Some very fine furniture has been made with veneered woods. When the veneering is done carefully, the result is very satisfactory. Glues have been developed which are stronger than the wood itself. Good veneering does not split open at the seams, or blister and come loose from the core.

There are certain advantages to good plywood construction. It is not so likely to warp as solid wood, especially in wide pieces such as those necessary for table tops. It does not split or “check” (break into tiny cracks on the surface) easily. It is fully as strong as or stronger than solid wood. It

Wood	Hardness	Resistance to Shrinkage and Swelling	Resistance to Warping	Amount of Grain	Bending Strength	Where Used	Color
Red gum	B	C	C	B	B	Legs, posts, frames. "Inside" construction. Sometimes, veneer	Pinkish to reddish brown
Oak	A	C	B	A	A	Bedroom and dining room, usually in solid pieces, but abundance and finish suit it for practically all furniture	Grayish brown, sometimes with reddish tinge
Yellow poplar	C	B	A	B	B	Veneer cores, solid parts of kitchen furniture, cabinets, frames of upholstered pieces	Light yellow to mellow brown.
Birch	A	C	B	B	A	Used where strength is needed, such as frames for chairs. Also drawers, slides, partitions, plywood, and veneers	Light reddish brown, taking stains well
Maple	A	Hard: C Soft: B	B	B	Hard: A Soft: C	Mostly as a solid wood in natural finish decorative bedroom and dining room suites; sometimes in living room pieces, and for furniture where strength is a chief requirement. Hard maple stronger than soft maple	White to light reddish brown
Tupelo	A	B	C	C	B	Legs, frames, and hidden parts of upholstered pieces. Also for kitchen furniture	White to grayish brown
Chestnut	B	C	A	A	C	Some types of bedroom, dining room, and occasional pieces, particularly tables. Outdoor furniture. Often used as core wood	Grayish brown
Red alder	Rated between red gum and yellow poplar					Table tops, dresser tops, side and drawer fronts, kitchen furniture, and solid parts of household furniture generally. May be stained in imitation of mahogany or walnut	Pale pink brown to white

Wood	Hardness	Resistance to Shrinkage and Swelling	Resistance to Warping	Amount of Grain	Bending Strength	Where Used	Color
Walnut	A	B	A	B	A	Used in all kinds of furniture, both as veneer and a solid wood. Its beauty and excellent wearing and machining qualities rank it near the top	Light to dark chocolate brown with characteristic dark streaks running through the grain
Mahogany	Rated equally with walnut					Used both as a solid wood and a veneer in high-priced furniture. Certain Philippine hardwood, called "Philippine Mahogany," are not a true mahogany	Varies from pale to deep reddish brown, the color taking on a richer hue with exposure to light
Cottonwood	C	C	C	C	C	Used as plywood and in the form of solid wood for concealed parts of high-grade furniture, and exposed parts of kitchen furniture	Grayish white to light brown
Ash, white Ash, black	A A	B C	B B	A A	A B	Found occasionally in moderate-priced tables, dressers, wardrobes, etc., drawer sides and backs and in frames	Light grayish brown to reddish brown

Grades and descriptive terms have these meanings:

Class A: Woods that are relatively high in property or characteristic listed.

Class B: Woods intermediate in property or characteristic listed.

Class C: Woods relatively low in property or characteristic listed.

Hardness: Property of resisting dents, scratches, and cuts. The harder the wood, the easier it will polish and the better it will wear. But it is more likely to split in nailing unless workmanship is of high standard.

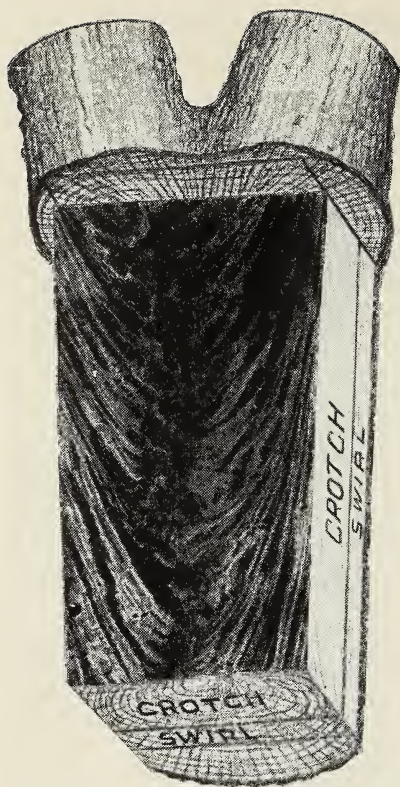
Resistance to shrinkage and swelling: This indicates the general tendency of the wood to resist shrinking or swelling with changes in moisture content. But, remem-

ber two-thirds of resistance of a wood to shrinking or swelling is in the way it was seasoned.

Resistance to warping: Again dependent to a large extent on the seasoning of the wood. If the wood is "quarter-sawed" it will be less likely to warp.

Amount of figure: Class A woods might be too heavily figured for some purposes. Class B woods have a more modulated figure, while Class C woods are almost lacking in a figure on the surface. Figure is much more pronounced in veneered furniture than that made of solid wood.

Bending strength: A measure of the load-carrying capacity of the wood. Particularly important when considering wood for reinforcements, chair backs, and cross-bar supports.



Courtesy Mahogany Association, Inc.

The mahogany that produces the famous crotch figure comes from the trunk of the tree just below where it forks into two nearly equal branches. Note in the chest opposite that the crotch figure is used upside down to the way it grows.

easily. This makes possible certain beautiful effects in decoration which are not possible with plywood. Solid-wood furniture is generally heavier and stronger than that made with plywood construction. Many people prefer it because there is no risk of poorly made veneer which will peel and blister.

is more economical than solid wood because a fine, expensive wood can be used for the face and a strong, cheaper wood for the core and crossbands. A solid mahogany board uses up much more mahogany than a plywood board with a mahogany face. Yet the face of the plywood board can be just as beautiful as the surface of the solid board. Another advantage in using plywood construction is the possibility of making beautiful designs with the grain of the wood. Panels with unusual and beautiful effects can be produced in veneers.

There are many advantages to the use of solid wood. Solid-wood surfaces which become worn, scarred, and discolored from use can be sanded down and refinished. This is not possible with veneer because the sanding would soon wear through the face of the veneer. Solid wood also can be carved

PREPARATION OF THE WOOD IS IMPOR- TANT

Furniture wood must have careful treatment before it is ready for use. A maple tree cut down today is not ready for use in furniture for several weeks. It must be seasoned in order to prevent warping, shrinking, and checking. The seasoning of lumber is really a drying process which removes most of the moisture from the

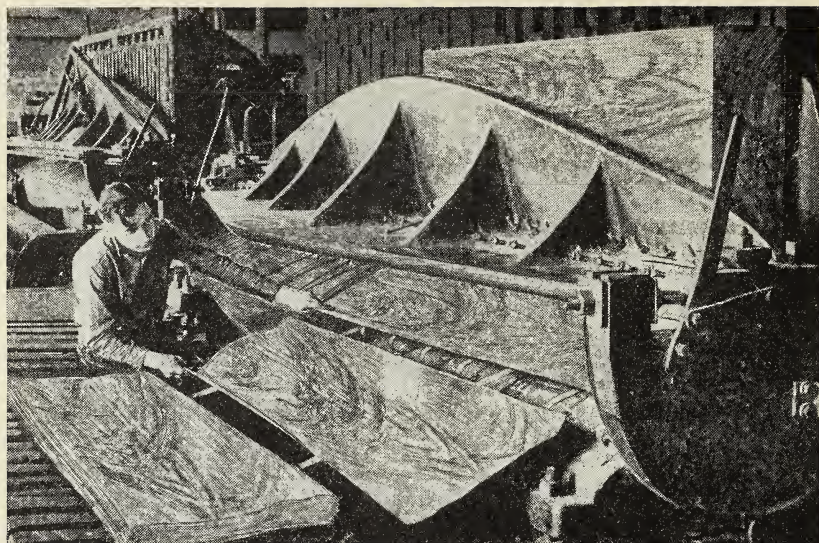
wood. Seasoning is accomplished either by natural or artificial means. Natural seasoning requires many months. Artificial seasoning is known as "kiln drying" and is carried on under controlled conditions. The heat, humidity, and circulation of air in a closed chamber are controlled with great accuracy. Naturally seasoned lumber is not always satisfactory for furniture. Kiln-dried lumber, if properly handled, is much more satisfactory. A chest of drawers made from kiln-dried lumber is not so likely to have sticking drawers, warped top, and loose joints as is a chest made from naturally dried lumber. Modern drying methods produce much better seasoned lumber than was possible a century ago.

When the forest tree is felled, it is sent first to the sawmill, where it is cut into rough lumber. The sawyer decides how it should be cut in order to make the best material for furniture. Next the rough stock is sent to the lumberyard or dry kiln for seasoning. Logs to be used for veneer are cut into very thin sheets of wood. Most veneer is cut by a rotary process. The log is first softened by steaming or boiling. Then it is placed in a lathe and turned against a long



Courtesy Mahogany Association, Inc.

The panels on the drawer fronts of this chest show a beautifully matched crotch figure. Note that the crotch figure is used up-side-down from the way it grows.



Courtesy Mahogany Association, Inc.

Veneers cut by a knife fastened to a movable frame.

knife the length of the log. The veneer is cut in a long ribbon which unrolls as the log turns against the lathe. Stumps and short sections of logs are cut in this way. Next the veneer is placed on racks for drying or is artificially dried on a moving belt which carries the veneer over heat.

Lumber generally arrives at the furniture factory in the form of solid rough stock or plywood ready for use.

Another method of cutting veneers is shown in the picture above. Here the log is fastened into a movable frame which brings the log down against the cutting edge of a knife that shaves off the veneer.

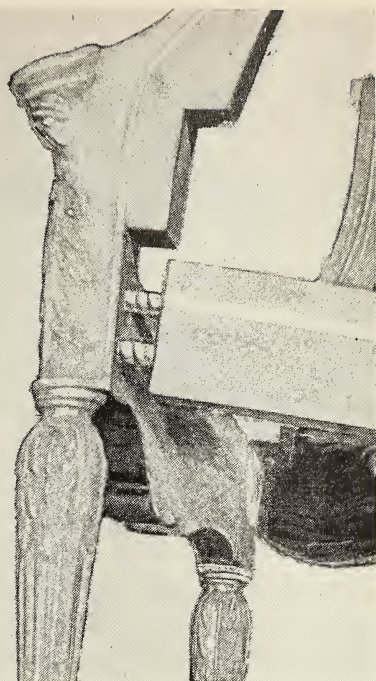
GOOD CONSTRUCTION IS IMPORTANT

The way furniture is put together has much to do with its strength, durability, and usefulness.

The *joints* should be strong and tight. Unfortunately, most joints are hidden from the eye of the consumer. In furniture of the poorest quality the joints are merely nailed to-

gether. This is a very weak type of construction. In other pieces of furniture the joints are held together with screws. This is a little better than nails, but is still a very poor type of construction.

Good furniture joints are made by fitting one piece of wood into a hole in another piece of wood. The diagrams on page 290 show some of these joints. The *mortise and tenon joint* is an excellent joint for joining a chair rung or stretcher to the chair posts or legs. In this joint an end of one piece is cut and shaped so that it will fit into a hole cut in the other piece. If the end which is cut down and shaped fits well in the hole, and if the gluing is well done, the joint will be strong and durable. The part of the joint with



Courtesy Mahogany Association, Inc.

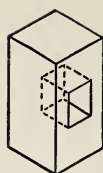
A hidden value in your chair about which you should inquire is the construction of the joints. The dowel joint is shown here.

the hole is the mortise and the other part which fits into the hole is called the tenon. In some mortise and tenon joints, the tenon extends all the way through the other piece of wood. This is an open mortise and tenon joint. In other mortise and tenon joints, the tenon extends only halfway through the mortise as shown in the diagram B on page 290. This is called a blind or closed mortise and tenon.

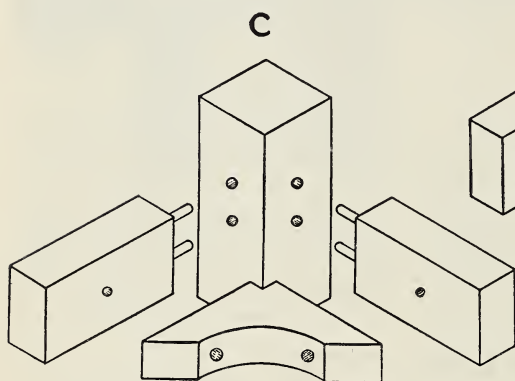
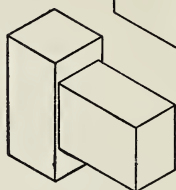
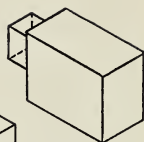
The *dowel joint* is used for joints between chair rails and posts and for many other joints. As you can see from the diagram it consists of a dowel or wooden peg which fits into holes drilled in the two pieces to be joined. The dowel is covered with glue and pushed into the holes. If the dowel



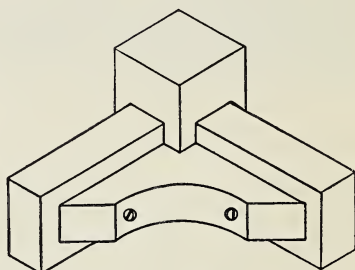
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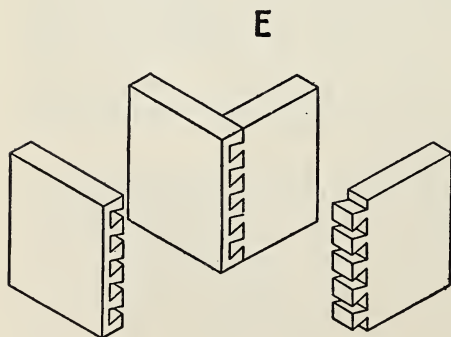
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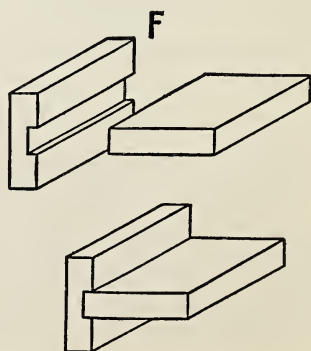
C



D



E



F

has spiral or longitudinal grooves cut into it, the glue can make a better contact.

The *dovetail joint* is best for corners of drawers. They should be used at the back corners as well as the front corners. These joints are not hidden and you can easily examine them. Corners of drawers nailed together soon pull apart.

The *dado joint* is a good joint for fastening shelves into the ends of a cabinet or bookcase. In poor-quality furniture the shelves are held in place by screws.

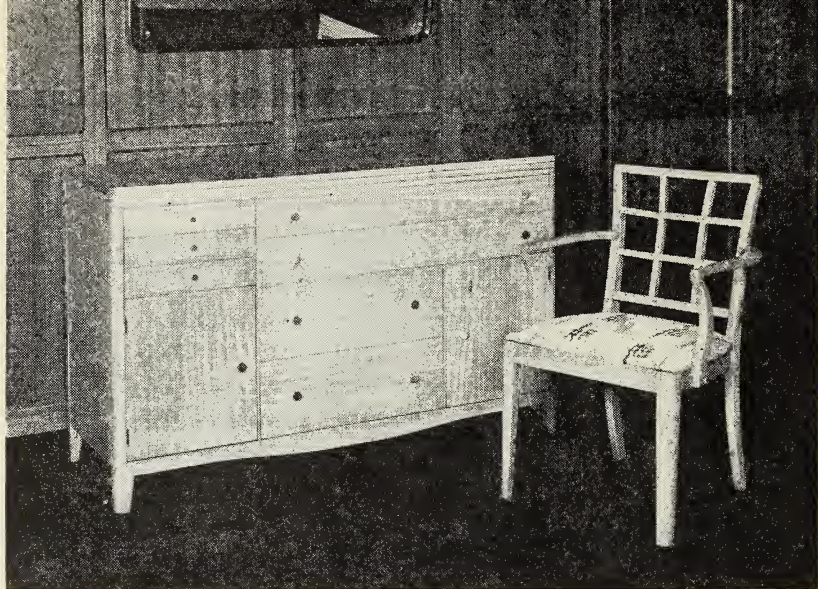
Corner blocks should be used to reinforce both mortise and tenon and dowel joints in corners where the block is concealed. Joints where the seat rails of a chair join the posts should be reinforced by corner blocks. The corner blocks relieve the strain on the dowels and the tenons. Lack of the corner blocks generally indicates poor construction.

Drawers should slide smoothly and easily. Pull out the drawers and examine the groove rails on which the drawers slide back and forth. There may be one slide in the center of each drawer space or one at each side. The groove rails should be fastened securely to the framework. The drawers should slide smoothly without sticking or wobbling. Drawers should be snug but not tight in compartments.

Drawers should be separated by a panel shelf. When you pull the drawers out to examine the groove rails, look to see if there is a panel between the bottom of each drawer and

Courtesy U.S. Department of Commerce

Types of joints used in furniture construction. *A* shows a *dowel*. The spiral and longitudinal grooves permit the escape of air, and prevent air pockets in the glue. *B* shows the *mortise and tenon*. In both dowel and mortise and tenon construction the use of good glue is essential. The glue is applied to the portion which is inserted in the socket. *C* shows how a chair post is joined to the chair rails. Holes are bored in the chair post and rails to hold the dowels. A corner block is added for extra strength. *D* shows the assembled joint. *E* illustrates a *dovetail joint* of the "half-blind" type. The joint is very strong and is desirable at the back as well as at the front of drawers. *F* shows the *dado joint*—the method by which shelves are fitted into the sides of cabinets.



Courtesy Mahogany Association, Inc.

The modern blond finish for mahogany is in direct contrast to the traditional dark finish.

the top of the drawer below. These panels help to keep the drawers dustproof.

Doors should fit snugly and should not sag. Open and close each door to see whether it works smoothly. Notice also whether it fits closely into the frame. Doors in poorly made furniture sometimes warp, and one corner may not entirely close. Examine the hinges, brackets, and door fastenings to see whether they are strong enough to do the work expected of them.

THE FINISH ON YOUR FURNITURE

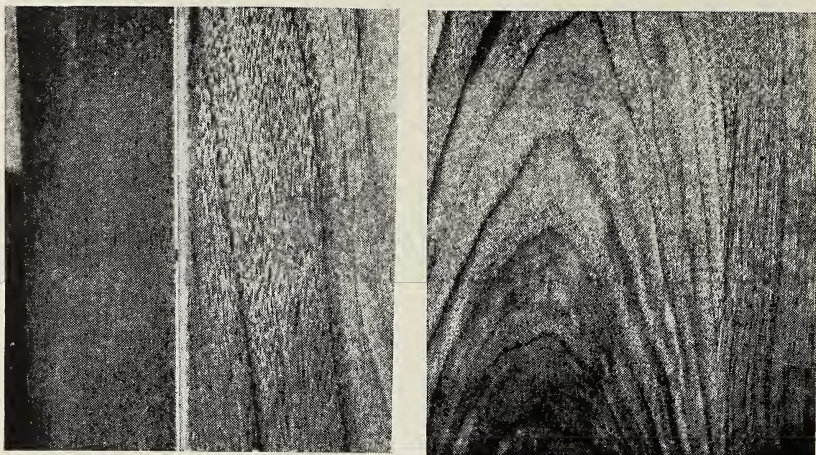
A good finish on furniture serves three purposes—to seal and preserve the surface, to make cleaning easier, and to make the wood more beautiful. A good furniture finish seals the surface of the wood and protects it from injury. It also makes cleaning easier. Dirt is much more easily removed from a sealed surface than from raw wood. A good furniture finish also improves the appearance of the wood. A stain

finish may change the color. It may make the wood darker or, in the case of modern, blonde furniture, it may make the wood lighter. A good stain is clear and even, bringing out the grain and natural beauty of the wood. A stain finish which is cloudy and thick is not desirable. The finish should not be used to conceal defects in the wood nor to disguise the fact that the wood has not the natural grain desired in good furniture. When woods with little or no grain are used for the exposed surfaces of furniture, they should be finished with paint. A pleasing grain should never be hidden under a thick, heavy stain. The stain should help to bring out the natural beauty of the wood, not to conceal it. There was a time when dark, heavy stains were used on the best furniture woods. Fortunately, this style of finish is no longer popular.

A good finish has a fine soft luster. Shellac, lacquer, varnish, or oil and wax may be used to produce the desired luster. A great deal of labor is required to produce a really fine finish. The surface must be rubbed down many times after repeated coats of varnish or other finish have been applied. Some furniture experts believe that oil and wax make the finest kind of finish. It is an expensive finish because of the great amount of labor involved, but it makes a very durable and beautiful finish. Moisture from a glass does not leave a mark on an oiled and waxed finish as it does on a varnished or shellacked surface. However, very fine finishes are produced with varnish which is rubbed down and waxed until it has a mirrorlike sheen.

Ugly, low-grade finishes are rough and shiny. These finishes are done with a minimum amount of labor, receiving almost no rubbing down. There is a great difference between the lustrous polish of a fine finish and the high gloss of shiny varnish. Learn to see this difference. It will help you greatly in selecting good furniture.

Mahogany, walnut, and maple are the three most popular woods used in fine furniture today. They are expensive woods, and not everyone can afford to buy furniture made from them. Consequently, manufacturers make furniture of



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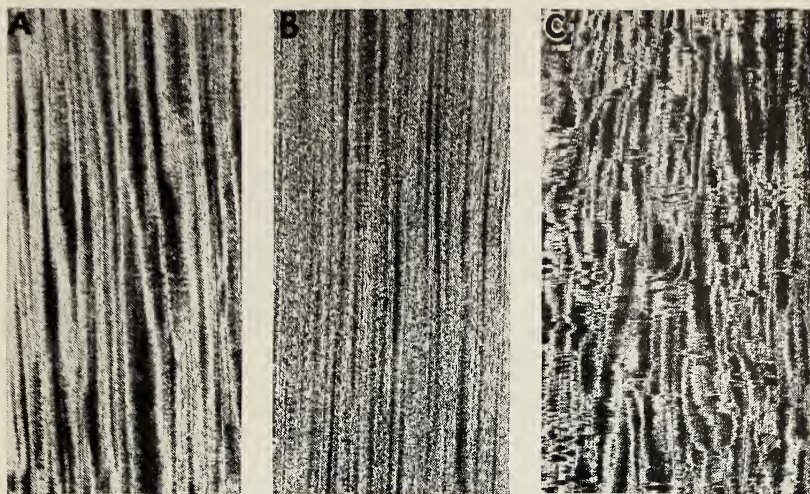
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3

Courtesy American Walnut Manufacturers Association

The grain of wood contributes to the beauty of furniture. (1) Gum used in chest. (2) Walnut used in veneered panel on same chest. (3) Solid walnut table top. Note how the pores give depth and character in walnut.

cheaper woods and finish them to resemble mahogany, walnut, and maple. Birch and gumwood are frequently used to imitate mahogany and walnut. Not many consumers are able to distinguish between genuine mahogany, walnut, and maple and their imitations. For this reason the Federal Trade Commission has established some trade-practice rules which prohibit false labeling or false advertising of furniture woods. Birch finished to look like mahogany cannot be sold as mahogany in interstate commerce. It must be called *mahogany finish*. A gumwood desk finished to resemble walnut must be sold as walnut finish. Unfortunately, many consumers do not know about these rules. They may not notice that a salesman says "walnut finish." They may think he means that the wood is walnut. Some furniture tags are misleading. These tags bear a space for "finish" but no space for "wood." When the consumer reads a tag on which the word "walnut" has been written opposite "finish," he is likely to think that the furniture is made of walnut wood. Consumers should learn the difference between walnut and "walnut finish."



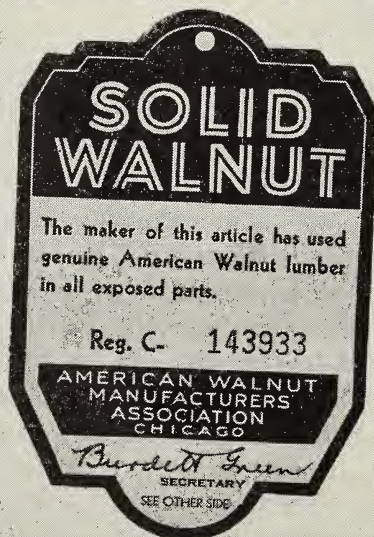
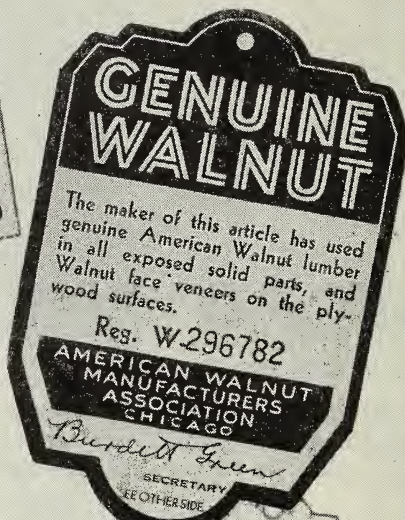
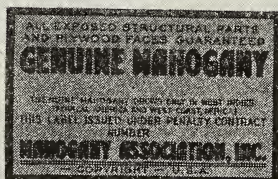
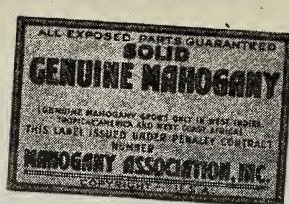
Courtesy Mahogany Association, Inc.

The figure in mahogany wood depends upon the turns and twists in the grain and upon the method used in cutting the log. Three typical effects are (A) plain, quartered stripe; (B) narrow broken stripe; and (C) block mottle.

Two organizations which encourage the labeling and identification of woods used in furniture are the American Walnut Manufacturers' Association and the Mahogany Association, Inc. These organizations issue their labels to furniture manufacturers who guarantee to use them according to contract. Manufacturers may use the "solid-walnut" or "solid-mahogany" labels on furniture which has all exposed parts made from solid walnut or solid mahogany. On furniture with solid walnut or mahogany legs, posts, and stretchers, and with walnut or mahogany-faced plywood panels, manufacturers may use "genuine-walnut" or "genuine-mahogany" labels. These labels are good consumer aids.

HIDDEN VALUES IN UPHOLSTERED FURNITURE

An upholstered chair or davenport probably contains more hidden values than almost any other consumer commodity. In some pieces of upholstered furniture everything but the



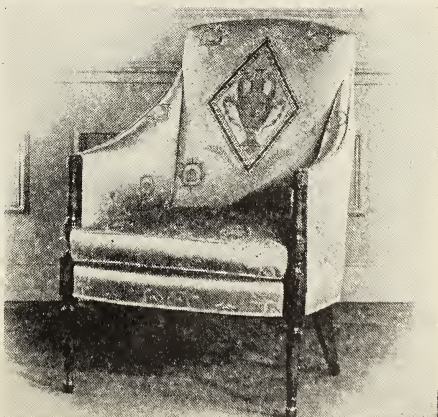
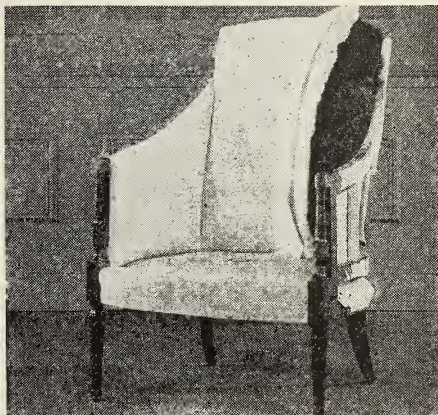
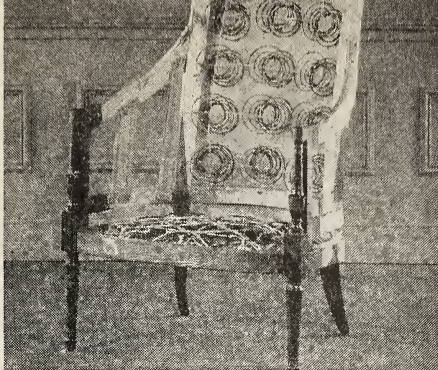
Courtesy Mahogany Association, Inc. and American Walnut Manufacturers Association

Informative labels which serve as guarantees for furniture buyers.

outer fabric is concealed. Here the consumer must depend upon the integrity of the manufacturer. A reliable manufacturer is willing to tell the consumer what he wants to know about the hidden values in upholstered furniture.

The consumer should know how to ask definite questions about the inside construction of an upholstered piece. *First, ask about the frame.* Is the frame made from hardwood? Hardwood is stronger and more likely to stand the strain of many years of use. Ash, birch, and hard maple are good woods for this purpose. Elm, gumwood, magnolia, and poplar are used in medium-grade furniture. Pine and other soft woods are used in low-grade furniture.

Second, ask about the joints. Are the joints dowel or mortise and tenon? Are they reinforced with corner blocks? Only the strongest construction is satisfactory.



Courtesy Robert W. Irwin Company

Furniture values that are hidden from consumers.

Third, ask about the foundation for the springs and filling. Is the foundation made of strong, closely woven webbing? Better grades of webbing generally have a red stripe. Lower qualities have a blue or black stripe. In good furniture the strips of webbing are closely spaced. Some medium-priced furniture has steel webbing. This will not stretch and sag, but it does not give the comfort of good fabric webbing. One type of construction, called "sagless," consists of a covering of heavy jute material stretched across the bottom of the chair and fastened to the frame with small springs.

Fourth, ask about the springs. How many springs are used? How are they tied? The average-sized chair of good quality should have 9 to 12 double-cone springs. A large chair should have 16 or more springs in the seat. Strong hemp twine is best for tying the springs together. Wire is not so good, but it is better than poor twine. Each spring should be tied in eight places. The knots should be just loose enough so that they will collapse comfortably under pressure and spring back to place when the pressure is removed. Springs tied too tightly may be uncomfortable.

Fifth, ask about the filling. What filling is used? Is there covering stretched between the springs and the filling? Is there a muslin covering over the outside of the filling and under the fabric? In high-grade furniture the stuffing is put on in two separate layers. First, a layer of long, curled horse-hair is quilted or sewed to the underlining. In medium-grade furniture the stuffing may be Spanish moss. In low-grade furniture the stuffing is sisal, coco fiber, or tow. After the first layer of stuffing another layer of padding is added to give shape and smoothness. This layer of padding should be cotton felt. Poor grades of furniture may have lumpy cotton or twisted paper for the last layer of padding. A muslin cover should be added to hold the padding in place.

QUALITY IN UPHOLSTERY FABRICS

Durability is especially important in upholstery fabrics. Replacing the upholstering material means expense not only

for the fabric itself but for the labor required to put it on the furniture. Most people cannot afford to incur such expense often, so good quality in upholstery material becomes tremendously important.

Good upholstery fabric is firm, closely woven, and flexible. It should also be colorfast to light and to cleaning processes. How can the consumer find out about these qualities? She will find very few labels to aid her selection. Of course, she can see the fabric, and this will help in judging quality if she knows what to look for, but remember there are many qualities in fabrics which cannot be judged by appearance and feeling. Questions to the salesman and comparisons of various fabrics will also help in making a selection. Unfortunately, there is no sure guide which will help the consumer to make a wise selection of upholstery fabric. However, the more the consumer can learn about different types of upholstery fabrics and their qualities, the better chance she has of making an intelligent selection.

1. Look for a *tight weave* in your upholstery fabrics. You have learned the importance of firmness and closeness of weave in dress fabrics and suitings. These qualities are even more important in upholstering materials. Loose weaves allow the threads to slip at seams and at edges where the fabric is attached to the frame. Look carefully for slippage in upholstery fabrics.

2. Look for a fabric that is *flexible*. Some fabrics are so stiff and heavy that they appear to be very durable. However, the lack of "give" in a fabric may cause it to wear out much sooner than another fabric which is more pliable.

3. Try to find guaranteed *colorfast* fabrics. It is generally very difficult to find out whether upholstery fabrics are colorfast or not. The few which are labeled "colorfast" generally do not specify whether they are colorfast to light, to washing, or to dry cleaning. The best fabrics are sometimes labeled "vat-dye" or "indanthrene dye." The best the consumer can do is to ask what is meant by colorfast labels and hope for good luck with her final choice of fabric.

TYPES OF UPHOLSTERY FABRICS

A great many different types of fabrics are used for upholstering furniture, but we will consider only the four principal types of upholstering fabrics in this chapter.

1. *Frieze* is a kind of material with a looped pile on the surface. In this type of fabric, threads are woven into the cloth and stand up in little loops all over the surface. This looped pile forms a springy surface which wears very well in upholstery fabrics. In good-quality frieze, the pile is firmly attached to the foundation and covers the surface thickly. You can test the quality of the pile by pressing it down with your fingers. Beware of the fabric when the pile seems to flatten easily. It should be very springy and should regain its shape at once after being pressed down.

Friezes are made from mohair, wool, linen, and cotton, or from combinations of these fibers. They come in plain and patterned styles.

2. *Velvet* or *velour* fabrics are popular for upholstering. These fabrics are distinguished by a cut pile. Instead of standing up in loops as in frieze, the pile stands up straight like the bristles in a brush. When these fabrics are made, the pile is woven in loops and then sheared off. If sheared too close, the pile will wear down much more quickly than in the case of a longer pile. Examine the patterned velours and velvets to see whether the pattern is made in the process of the weaving or by shearing the pile more closely in some parts than in others. This may affect the wearing quality of the fabric.

Velvets are made from all the textile fibers. Velour is the term which is generally used for a cut-pile upholstery fabric made from cotton. These fabrics vary widely in price depending on the fiber from which they are made and on the quality of the weave. Like friezes, the pile should be thick and dense. Examine your materials for this point.

3. *Rib weaves include tapestries, repps, and armures.* In the rib weaves you can see the corded effect produced by weaving. Tapestries are made with large designs, sometimes

with pictures as design motifs. Repps are solid colors with a crosswise ribbed effect. Armures have a small design woven into the fabric.

The rib weaves may be made from any of the textile fibers. Firmness of weave and pliability are particularly important in these materials.

4. *Damasks and brocades* are similar in appearance but are very different in construction. They are formal and dressy in effect and are suitable for the more elegant types of furniture.

You can tell the difference between damask and brocade by looking at the underside. Damask is made with pattern weaving and is reversible. Part of the design is made with the plain weave and part with the satin weave. On one side of the cloth the background is plain weave, on the other side it is satin weave.

Brocade is made by superimposing the pattern on the plain weave. The wrong side shows many long floating threads which are carried along for use in the pattern on the right side. The reverse side of brocade cannot be used as in the case of damask.

Damasks and brocades are the least durable of the upholstering materials. They may be made from any of the fibers. Mercerized cotton and rayon are used for many of the moderately priced damasks and brocades.

FIBERS USED FOR UPHOLSTERY FABRICS

Wool and mohair are by far the most durable materials for upholstering. They are also the most expensive. There is one other factor to be considered in the selection of wool or mohair for your chairs and davenports. These fibers are most attractive to moths, and moths can eat away your furniture coverings in a very short time. This does not mean that you should always avoid wool and mohair on your furniture, but you should be prepared to frustrate the moths. You can do this by making sure that enemy moths do not have a chance

to attack your furniture. Organize a defense system which they cannot penetrate.

Some wool and mohair upholstered furniture is treated for mothproofing. In some cases manufacturers give guarantees against damage by moths. These guarantees generally have a time limit. If you buy furniture which is advertised as moth-proof, be sure that you understand the terms of the guarantee. Also make sure that you have the guarantee in writing.

FURNITURE LABELS TO AID CONSUMERS

Furniture shoppers find very few labels which help them to make selections, yet there are a great many facts which might be put on a furniture label. A really informative chair label might read as follows.

- Wood:* Exposed parts (legs) of walnut
Birch frame
- Kiln dried:* Moisture not more than 6%
- Joints:* Mortise and tenon
Reinforced with maple corner blocks
- Webbing:* Strong and closely spaced
- Springs:* 12 double cone in seat
- Filling:* Curled horsehair sewed to underlining
Upper layer of cotton felt
- Covering:* Muslin underneath outer fabric
Outer fabric 50% mohair and 50% rayon
- Mothproofed:* Guaranteed for 5 years

When consumers insist upon more information about the hidden qualities in the goods they buy, manufacturers will provide such labels as these.

THE COMMERCIAL STANDARD—A CONSUMER AID

The National Bureau of Standards carries on several types of services which are of value to consumers. We have already become acquainted with the Simplified Practice Recommendations (cans for fruits and vegetables, page 82) and the testing of consumer goods (hosiery and shoes, pages

This type of label (front and inside shown here) on an upholstered chair tells the consumer about the hidden qualities in the chair. Why should consumers not be told about hidden values? The manufacturer's label is the best way of giving to the consumer information about these hidden qualities.

Courtesy Gimbel's Bureau of Standards



Gimbels 18th Century Groupings

Made to Specifications Approved by GIMBELS BUREAU OF STANDARDS

GIMBELS exclusive custom group designed specially for Gimbel Brothers is furniture you will be as proud of for its beauty as for its superb quality construction. Each piece was inspired by a fine 18th Century original. Though it differs little from the old masterpieces in appearance of line and grace, it is superior in comfort. The large selection . . . 7 styles for sofas, and 7 styles for chairs, make it possible for you to choose those that will suit your type of home. The choice of 200 luxurious fabrics lets you indulge your whim to be your own designer, to create your own interesting effects.

HOW THEY WILL WEAR

- Hardwood inside frame doweled and glued with screwed corner blocks, sturdily built, for strength and durability.
- Exposed frame made of Honduras Mahogany.
- Sagless base construction with 7-gauge steel supports for permanency.
- Twelve hairglass springs per section base and back securely fastened to frame, by 7-strand cord insure comfort, long life and service.
- Blended animal hair for more permanent resiliency.
- Cotton felt garnetted for added resiliency and smoothness.
- Seat cushions filled with goose feathers and down for luxurious comfort.

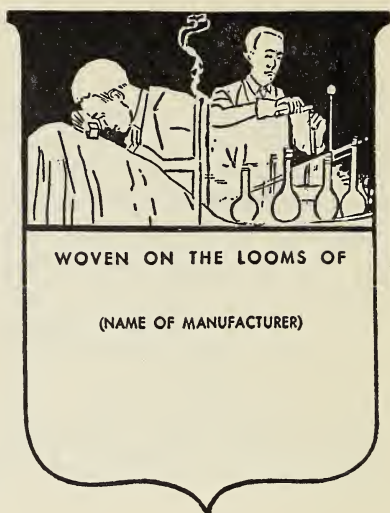
HOW TO MAKE THEM LAST LONGER

- Cushions should be turned and fluffed frequently.
- The suite should be brushed at regular intervals.
- Dry cleaning will restore lustrous finish.
- Moth preventatives should be administered by specialists only, in order to prevent spotting.

WHAT THEY ARE MADE OF

- Hardwood inside frame with carved legs and exposed carvings of Honduras Mahogany.
- Sagless base construction of 7-gauge steel springs.
- Hemp cord of 7 strands used to anchor springs to frame.
- 75% Mixed Hair, 25% Cotton Linter Felt.

A Complete Testing Report is Available



Courtesy National Bureau of Standards

This commercial standard provides a minimum quality for cotton and rayon velour (jacquard and plain) for upholstery purposes based on colorfastness, anchorage of pile, abrasion resistance, weight of pile, and weight and construction of the fabric.

145 and 146). Another important service is provided through the establishment of commercial standards.

A commercial standard is a standard of quality which is established through the voluntary co-operation of manufacturers, distributors, and consumers with the National Bureau of Standards. For example, a commercial standard for cotton and rayon velour (CS103-42) has been established in this manner. This means that minimum requirements for quality have been set and recorded, below which the product must not fall if it is guaranteed to comply therewith.

A commercial standard is a voluntary standard which is not required by law, but may be used by any manufacturer who desires to do so. If a manufacturer's cotton and rayon velour meets the requirements, he may use the label shown at the top of the page.

The wise shopper searching for furniture upholstered with cotton and rayon velour looks for this label because it is a

guarantee of high quality upholstering material of that type. Consumers should learn that the commercial standard is a consumer aid upon which they can depend. Commercial standards have been established for other types of consumer goods—mohair-pile fabrics, boys' blouses and shirts, testing and reporting of woven textile fabrics, men's pajamas, mattresses, mirrors, and many other products.

FURNITURE CONSTRUCTION IN WARTIME

An informative label on a piece of furniture made during the Second World War would not read like the label suggested on page 302. In November, 1942, the government prohibited the use of steel in furniture construction. This meant that manufacturers had to find a substitute for steel springs in their upholstered furniture. Most of them devised some kind of wooden springs to take the place of the steel springs. Some of the wooden springs are made like the leaf springs in wagons. Some are based on the springboard principle and are made somewhat like the diving board in a swimming pool. Others are based on the cantilever principle, and still others on the coil-spring principle. If you buy upholstered furniture made since November, 1942, be sure to ask how the springs are constructed.

Manufacturers have also been forced to find substitutes for the webbing used to make a foundation for the springs and filling. This problem was solved by using the scraps of duck left from the manufacture of articles for army use. Some substitutions for filling materials for furniture have also been necessary.

Upholstered furniture produced under wartime conditions is not so soft and springy as that made previously. In order to make it as comfortable as possible, manufacturers have paid more attention to the contour of the furniture. The pitch of the seat, the height and depth of the back and arms, and the height from the floor are points in design that are considered carefully.

The selection of a piece of furniture should include other considerations besides durability. Comfort and convenience in use are important points. Chairs which are not comfortable, desks which are too high, or davenports that are too low for easy cleaning are not good values judged by consumer needs. Chairs which measure about 18 inches from the floor to the seat are comfortable for most people. If you are unusually tall or unusually short, you will want chairs suited to your proportions. The depth of the chair seat from front to back should be about 19 inches, and more for an upholstered chair. Chair backs should be high enough to give support to the shoulders when one leans back.

Comfort in chair design is not entirely a matter of the right measurements. The design must include curves and slants which adapt the shape of the chair to the shape of the human body. Early historic chair designs were built on the square with no slants or curves. Gradually furniture designers introduced chair backs which slant back, seats which tilt from front to rear, and curves which fit the curves of the human figure.

The best way to judge the comfort of a chair is to sit in it. Most people do this when selecting chairs for their living rooms but never think of doing it when they buy dining room chairs and breakfast sets.

Desks should be well adapted to their purpose and comfortable to work at. The writing surface should be about 30 inches from the floor for most people. There should be adequate drawer space for your needs. If you do a great deal of writing and other desk work, choose a desk which will furnish ample space for your materials. If you use your desk only for letter writing and similar purposes, you will find a desk with little drawer space suitable.

Dining room furniture should provide ample space for keeping dishes and linens. This point may determine whether you will choose a Welsh cupboard with open shelves or a

cabinet with doors. Bedroom furniture should provide sufficient space for storing your clothing. This will help you to decide whether to buy a dressing table or a chest and mirror.

For convenience in cleaning, pieces of furniture should not be nearer to the floor than six inches unless they sit directly on the floor with no space at all under the furniture.

COLOR AND STYLE MUST BE CONSIDERED

No piece of furniture should be selected without consideration of its art quality. Color and design have a great deal to do with our choices of furniture. In fact, many pieces of furniture have been bought entirely on this basis and with little consideration for durability, comfort, or convenience. Many people buy furniture because it appeals to their esthetic sense and give no thought to whether they are getting good value for their money. On the other hand some people buy furniture which they believe to be "good and solid," without giving much thought to its beauty.

Good value in furniture includes both practical and esthetic considerations. Many books have been written on art quality in furniture and there is not space here for a full consideration of all points on beauty of furniture. However, here are a few general points on art values when you are buying furniture.

1. Avoid fussy and elaborate furniture designs. This type of design is used frequently to cover up poor construction and poor materials. It is also hard to keep clean, and it may soon look shabby.

2. In case of doubt rely upon period styles in furniture design. Certain period styles which were popular in the past have proved to be satisfactory in modern times.

3. You should include a consideration of "modern" furniture along with historic styles. Some modern furniture is very pleasing in design and color.

4. Combine different styles of furniture in the same room

if they are harmonious, but beware of two styles which are not related in type. For example, a modern table with its straight, horizontal lines in a room full of Chippendale furniture with curved legs and carved decorations looks decidedly queer.

5. Choose furniture which is harmonious in character with the other furniture in the house. If your furnishings are elegant and luxurious in type, a new piece should be chosen with this in mind. If your furnishings are simple and unpretentious in type, a new piece should be in "character." Decide what type of furnishings will suit you best and choose your furniture accordingly.

6. Look for good lines and pleasing proportions in all types of furniture. Avoid awkward-looking designs and clumsy effects. You do not have to be an art expert to see the difference between a clumsy, bulky-looking chair and a comfortable, graceful one.

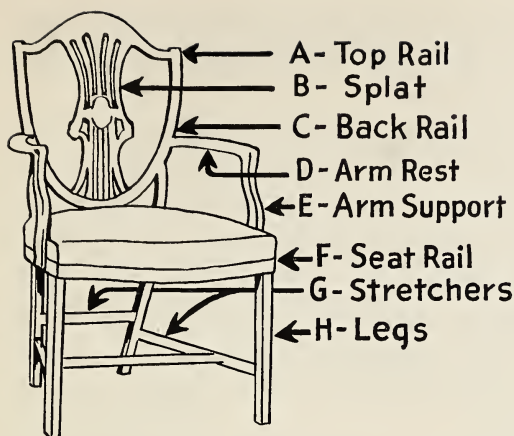
7. Choose your colors in wood and in upholstery fabrics with a definite color scheme in mind. This does not mean that all colors must match, but that they should combine agreeably. Avoid a hit-or-miss arrangement of colors. Rooms with definite color schemes generally give a pleasing and satisfactory impression. Rooms with a hit-or-miss color arrangement are likely to look cheap and ordinary.

CONSUMER TESTS WHEN SELECTING FURNITURE

Although furniture contains many hidden values, yet there are certain values which the consumer can check for herself. Following is a summary of the ways in which the consumer can check values when selecting a piece of furniture.

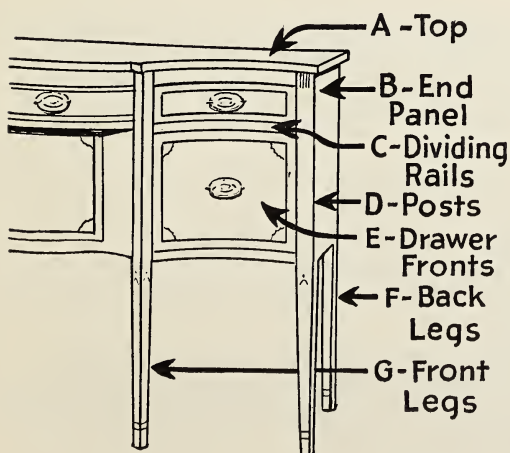
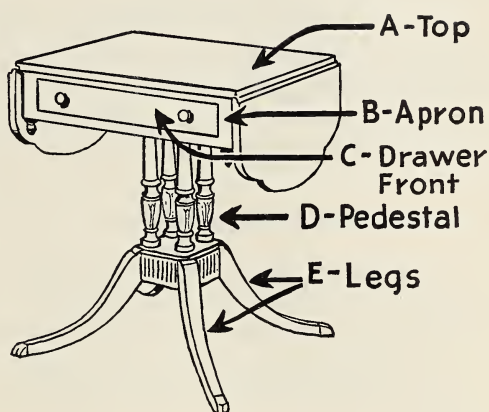
1. Give small pieces of furniture the "upside-down" test. Examine the construction underneath the seats of chairs, and underneath table tops.

2. Examine the backs and insides of such pieces as chests, cabinets, and buffets. You can check the construction of drawers and, sometimes, the construction of framework.



Courtesy Mahogany Association, Inc.

When you buy a piece of furniture, examine each piece of wood used in its construction—both for finish and construction of wood.



3. Try the "use" test on such pieces as chairs, desks, dining tables, and dressing tables. Sit in the chairs, write at the desks, and sit at the dining tables.

4. Examine the finish for smoothness and durability. Run your fingers in the grooves and corners to see if the finish is smooth in the small places as well as on the broad surfaces. If possible try the following tests for durability of the finish. In some spot which does not show, scratch with the fingernail. If the finish is poor it may make a white mark due to brittleness. In another spot which does not show rub briskly with the thumb for several seconds. A poor finish may become sticky or powdery.

5. Try the "mental-picture" test. Picture in your mind just how the piece of furniture will look in the room in which you expect to put it. Will it harmonize with the other furnishings or will it be conspicuous because it is different in type? Is it the right size? Will it fill up the room too much?

SUGGESTIONS FOR DISCUSSIONS AND ACTIVITIES

1. Arrange for a visit to a furniture store or a home where you will see some furniture of good quality. Ask someone who understands quality in furniture to point out the good features.

2. Write an evaluation of one piece of furniture in your home. Use the points discussed in this chapter to check the good and poor points.

3. Collect samples of upholstery fabrics. Your teacher will select ten samples which you will judge for quality. Each sample will have a number. Write your judgment, "good," "medium," or "poor," for each sample. Compare answers with those of other members in the class.

4. Collect furniture advertisements. Classify these into two groups—informative and noninformative. What facts might have been added to the most informative advertisements?

5. Arrange for a report on period furniture. This report should include pictures or lantern slides showing characteristic pieces in at least four period styles.

6. Appoint a committee to report on the care of furniture.

7. Learn to recognize at least six different furniture woods. You can do this through the study of woods in actual pieces of furniture or through the study of samples of wood.

8. Plan the furniture which you consider ideal for your own room. Get pictures and written descriptions of each piece. Secure prices for these pieces of furniture.

YOUR CONSUMER INVESTIGATIONS

1. Plan the furnishing of a five-room house or apartment as a class project. Appoint five committees to investigate the cost of furnishing each room. Each committee should secure prices for pieces of furniture on sale in your local stores. They should also secure as much data as possible about qualities of the furniture and household equipment. If your local stores do not carry the furniture which is needed, secure your prices and information from mail-order catalogues.

2. Report any instances of your failure or success in trying to secure information about hidden values in furniture.

3. Secure prices for four types of upholstery materials sold by the yard. Which kind of fabric do you consider would give you the best value for your money? Why?

~ I 2 ~

THE FABRICS IN YOUR HOUSE

EVERY room in the house requires some kind of textile fabric for complete furnishing. Rugs, curtains, slipcovers, and upholstery fabrics are standard furnishings for the living room, as well as for the dining room and bedrooms. Tablecloths, doilies, and napkins are needed for the dining room; tea towels and dishcloths for the kitchen; sheets and blankets for the bedrooms; and towels for the bathroom. Each of these textile fabrics has a special function to perform. Rugs should lie flat and soften the hard floor; towels should be soft and absorbent; sheets should be smooth; blankets should be warm; and curtains should reduce light glare and beautify the windows. All household textiles should be strong and durable. A study of good quality in household textiles will bring out the points to watch for in making selections.

First, check what you already know about quality in household fabrics. (*Do not write in the book.*)

CONSUMER QUIZ

1. A 50 x 50 thread count means good quality in heavy muslin sheets. True or false?
2. Good sheets are made with taped selvages for extra strength. True or false?
3. You should examine a blanket for thin places by_____.
4. The special function of pile loops on bath towels is to _____.

5. Which fabric is suitable for thin glass curtains?
 Damask Grenadine Homespun Indian Head
6. Select the words in the second column which are related to the household textiles listed in the first column.
 Linen damask Napping
 Sheets Line
 Marquissette Fine count
 Blankets Leno weave
 Rugs Pitch

SPECIAL NOTICE!

Your study of this chapter will not be very helpful unless you have actual samples of each of the household textiles discussed. Plan to secure samples of sheets, blankets, table linens, glass-curtain materials, draperies, and rugs. You should have several samples of varying qualities of each type of household textile.

GOOD QUALITY IN SHEETS

Good sheets are smooth, even textured, and long wearing. Consumers should learn how to select these qualities at the best price.

Types of sheets must be considered in order to compare values. Sheets are classified in five groups: heavyweight muslin, medium-weight muslin, lightweight muslin, fine count, and percale. We should not expect the same type of service from these different types of sheets. Heavyweight muslin sheets are strong and weigh more than other types of sheets. They are very durable, but they are expensive to launder if you pay for your laundry by the pound. Percale sheets are fine and smooth in comparison with the heavyweight muslin. They are not so strong as muslin sheets but since they are lighter weight, they are less expensive to launder by the pound. However, they cost more in the beginning than muslin sheets.

The shopper should decide what qualities she wants most in her sheets. If she wants fine, smooth texture and does not care so much about durability, she will choose percale sheets. If she wants durability most of all, she will choose muslin sheets. If she wants to reduce the weekly laundry bill, she will choose lightweight sheets, but if the laundry is done at home she need not consider the weight of the sheets except for durability.

The table on page 315 will show you how the different types of sheets compare in important qualities. The consumer who studies these qualities in different types will know which type best suits her needs and her pocketbook. The specifications given in the table were set by a regulation ordered by the Office of Price Administration in March, 1942. In general, Type No. 180 corresponds to what has been known as fine-count sheets, No. 140 are heavyweight muslin, No. 128 sheets are medium-weight muslin, and No. 112 are lightweight muslin. You will notice that the number used for the type of sheet corresponds to the thread count. The thread count is given by the square inch, that is, if there are 90 warp threads and 90 filling threads per inch, the thread count is 180. You will also notice that percale sheets are not included in this OPA regulation. Percale sheets are the most expensive of the various types of sheets and are not so durable as some of the other types. When you buy percale sheets, you pay for fine texture and pleasing appearance and do not expect so much wear. A good percale sheet has a thread count of at least 100 in each direction. Smooth texture is secured by the use of long cotton fibers in the yarn. These fibers are combed instead of carded and this leaves less fuzz on the surface of the cloth.

POINTS TO CHECK WHEN BUYING SHEETS AND PILLOWCASES

The good shopper always checks on certain points before she decides which sheets and pillowcases will give her the best return for her money.

Minimum standards for 4 "Types" of sheets, pillowcases, sheeting

Type	Threads per sq. in.*	Ounces per sq. yd.	Breaking strength †	Maximum sizing
# 180	180	3.6	60	4%
# 140	140	4.6	70	4%
# 128	128	4.0	55	6%
# 112	112	3.7	45	10%

On all types: Selvages must be tape. Plain hems on sheets should total 4 inches; on cases, 3 inches. Stitching should be 14 stitches per inch.

* This is the total number of threads lengthwise and crosswise; it is best when the number is equal in each direction.

† This must be equal, lengthwise and crosswise.

1. *Ask about the thread count.* It is an indication of strength and durability. Salespeople are now generally prepared to give the consumer this information. The thread counts will not correspond exactly to the specifications given in the table here, but you can judge whether the counts are approximately the same as for the type of sheet which you wish to buy. It is better when thread counts are given for warp and filling separately because you can then judge whether they are well balanced.

In general, the lower thread counts indicate poor quality. A lightweight muslin sheet made with fine yarns and a thread count much below 112 will not wear well. It will be sleazy and will wrinkle badly.

2. *Ask about the breaking strength.* This is an indication of durability. Well-twisted yarns and firm yarns make stronger sheets.

3. *Ask about the weight.* Lightweight sheets may be made with fine yarns closely woven as in the case of fine count and percale sheets. Or they may be made with lightweight yarns loosely woven which produce a sleazy fabric that wrinkles badly and gets dirty quickly.

A point to remember is that both lightweight and heavyweight sheets may be good quality. If you want a lightweight sheet, notice whether it is lightweight because of loose weave, or whether it is lightweight because it is made with fine yarns closely woven. Heavyweight sheets are generally durable, but they are cumbersome to handle and do not iron as easily as lighter-weight sheets.

4. *Ask about the amount of sizing.* The sizing in a sheet consists of starch and other materials added to give the sheet a smooth finish. Sizing is used in the weaving to prevent the warp threads from breaking. A small amount of sizing is not objectionable, but it should not be used to give weight to the sheet. A sheet which is heavily sized may appear to be a heavyweight sheet of good quality before it is washed, but after its first trip to the laundry tub, it becomes a thin, sleazy sheet. You can test the sheet for sizing by scratching with your fingernail. If it is heavily sized, a white powdery substance will appear on the spot where you have scratched the surface.

5. *Examine the hems.* Good sheets have a 1-inch hem at one end and a 3-inch hem at the other. It is customary always to use the wide hem at the top. Some homemaking experts have recommended that sheets should have a 2-inch hem at each end so that the ends are interchangeable. When the ends are used interchangeably the wear is distributed more evenly. Hems should be turned evenly from torn edges. Examine the hems to see if they are straight with the grain of the cloth. The stitching should be firm with about 14 stitches to the inch.

6. *Examine the selvage edges of the sheet.* Good sheets are made with taped edges for extra strength. Extra threads are woven along the edges to form a firm taped selvage.

7. *Choose the right size.* Sheets come in varying widths and lengths, and it is important to choose the size which fits your bed and is most convenient for use. Sheets for double beds are made 81 and 90 inches wide. The 81-inch width is wide enough for most beds. Twin-bed sheets come in 63-



Pepperell Buy Guide

Pepperell Peeress Sheet

An exquisitely smooth percale, made of combed yarns. One of the finest, most luxurious cotton sheets you can buy.



This Pepperell product has been tested and approved by the Better Fabrics Testing Bureau.
PEPPERELL MANUFACTURING COMPANY
Boston, Massachusetts

WHAT IT IS MADE OF

Fibre Content: 100% American Mississippi Delta cotton.

HOW IT IS MADE

Thread count (after bleaching) averages: 202 threads to the square inch—103 lengthwise, 99 crosswise.

Weight averages: 3.92 ounces to the square yard.
Finishing materials: less than 1%.

This luxurious sheet is made of the finest cotton yarns, combed to remove short fibres. Only the silkiest, longest fibres are used.

3/8-inch Tape selvage is tightly woven to offer extra protection against cracking and tearing.

4-inch hem at top, 1-inch at bottom. Stitched with small stitches, and the ends firmly caught.

Tellmark tab, in corner of sheet, makes it easy to tell the size without removing sheet from shell.

Inspected 28 times during manufacture. Samples tested weekly to check quality maintenance.

WHAT SERVICE IT WILL GIVE

Breaking strength: Sheet fabric will withstand a pull of 79 pounds lengthwise, 87 crosswise. (Average figures.)

Shrinkage: tests made on the rotary ironer basis show approximately 0% lengthwise and 1.75% crosswise.

This exquisite sheet provides the utmost in sleeping comfort. But the fine yarns and tight weave, which make it so smooth and even-textured, also give it extreme strength and durability.

Its lightness makes it easy to handle, and cheaper to launder at pound rates.



Pepperell Buy Guide

Lady Pepperell SERVICE WEIGHT SHEET

An exceptionally fine, strong and serviceable muslin sheet which, we believe, offers the utmost in combined thrift, comfort and long wear.



This Pepperell product has been tested and approved by the Better Fabrics Testing Bureau.

PEPPERELL MANUFACTURING COMPANY
Boston, Massachusetts

WHAT IT IS MADE OF

Fibre content: 100% American cotton.

HOW IT IS MADE

Thread count (after bleaching) averages: 146 threads to the square inch—76 lengthwise, 70 crosswise.

Weight averages: 4.0 ounces to the square yard.
Finishing materials: less than 1%.

Made from heavier and stronger threads than percale sheets, so that fewer threads to the square inch are needed to make a close-woven, fine-appearing surface. More threads are used than in light-weight muslin sheets to provide extra strength and wearability.

3/8-inch Tapered Tape selvage is tightly woven to offer extra protection against cracking and tearing.

Hems are stitched with small stitches, and the ends firmly caught.

Tellmark Tab, in corner of sheet, makes it easy to tell the size without removing sheet from shell.

Inspected 28 times during manufacture. Samples are tested weekly to check quality maintenance.

WHAT SERVICE IT WILL GIVE

Breaking strength: Sheet fabric will withstand a pull of 82 pounds lengthwise, 77 pounds crosswise. (Average figures.)

Shrinkage: tests made on the rotary ironer basis show approximately 5% lengthwise and none crosswise.

This type of sheet is generally considered the most serviceable, longest-wearing sheet that can be bought, regardless of price. It has been tested in 100 regular commercial laundries—equivalent to about eight years' washing in the average home where sheets are washed every two weeks.

Because of its relatively heavier weight, the sheet has less tendency to wrinkle.

Courtesy Pepperell Manufacturing Company

and 72-inch widths. Lengths vary from 90-inch, 99-inch, and 108-inch lengths. A sheet should be long enough to tuck in well at the bottom and to turn back over the edge of the blanket at the top. Most people find the 108-inch length best. Generally the length of the sheet refers to the torn length before hemming. Remember also that most sheets are not preshrunk. They are likely to shrink several inches with laundering. Take this into account when you decide what size sheets to buy.



INFORMATIVE LABELS ON SHEETS

If all sheets were labeled with the specification of construction, you would not need to ask about the points given above. Some manufacturers do label their sheets with informative labels that tell you about the construction of the sheet. Two informative labels used by one manufacturer are shown on page 317. In each case the sheet is known by a trade name, but by reading the labels you can soon tell how they compare in quality. Which sheet would you expect to be more expensive? Which one cheaper? Why?

SIZE CHARTS

SHEET WIDTHS

45" Crib	63" Single Bed
50" Crib	72" Twin Bed
54" Cot or Youth's Bed	81" $2\frac{1}{2}$ or Double Bed
90" Full Double Bed	

SHEET LENGTHS

	Before Hemming	After Hemming*	Net After Shrinkage*
Recommended	108"	103"	97"
Acceptable	99"	94"	89"
Not recommended except for cots	90"	85"	80"
Recommended for cribs	77"	72"	68"
Not recommended for cribs	72"	67"	63"
Hems 3 inches and 1 inch			*Approximate

PILLOW CASE SIZES

WIDTH (Circumference)	LENGTH	FOR PILLOW
42" x	36"	20" x 26" or 20" x 28"
42" x	38 $\frac{1}{2}$ "	
45" x	36"	
45" x	38 $\frac{1}{2}$ "	22" x 28" or 22" x 30"

Courtesy Pacific Mills

GOOD QUALITY IN BLANKETS

Good blankets keep us warm, wear well, launder well, and feel soft and pleasant to the touch. Maximum service depends on what the blanket is made of and how it is made.

THE FIBER IN YOUR BLANKET

The all-wool blanket made from good fibers gives the maximum amount of warmth and durability. Consumers can now be sure of truthful labeling of wool content in their wool blankets. The same law, the Wool Products Labeling Act, which requires the labeling of wool suiting fabrics, applies to the labeling of wool blankets.

The percentage of each kind of wool—virgin, reprocessed, and reused—must be given on the label of the wool or partly

wool blanket. Unfortunately, the law does not require the label to state the *quality* of the wool. Some new wool is inferior in quality to reprocessed wool, but the consumer cannot learn this either from the label or by examining the blanket.

A warm blanket is a good heat insulator. It keeps you warm because it does not allow your own body heat to escape. Wool blankets are good heat insulators because they are blankets of air holes. Air is a poor conductor of heat and so a blanket with many air spaces saves your body heat. An all-wool blanket made from good fibers is the warmest blanket. The government ordered one million woolen blankets for the army in September, 1941—and this was only one order. More orders for all-wool blankets were placed at later dates. These army blankets had to be made according to specifications which provided for the warmest and most durable blankets possible.

Consumers do not always want to buy all-wool blankets. In some climates all-wool blankets are neither required nor desirable. When pocketbooks are limited, consumers do not wish to pay for all-wool blankets. Wool can be combined with either cotton or rayon to produce good blankets for certain purposes at less cost than all-wool blankets. Less than 25 per cent wool is not desirable because the wool soon mats down and the air spaces are lost. It is better to buy an all cotton blanket at cotton prices than to buy a blanket of less than 25 per cent wool and pay extra for the wool.

Remember that good wool is springy and resilient. It is this quality of the wool fiber that helps to maintain the air spaces so necessary to warmth. Feel the blanket to see if the fabric seems springy and soft. Avoid harsh, stiff-feeling blankets.

THE WAY YOUR BLANKET IS MADE

The *foundation cloth* should be firm and even. Hold it up to the light to see whether there are thin places. Most blankets are made with a twill weave because this throws the fill-



CHATHAM BLANKET

WARMTH WITH SERVICE

SUTTON 72 x 84

This is a medium-weight, service quality, single blanket, constructed of 25% wool, 50% rayon, and 25% cotton, bound with rayon satin. The specifications on this label are the facts every intelligent buyer should know and use, and this is the type of label recommended by the U. S. Bureau of Home Economics and the National Consumer-Retailer Council, Inc.

READ THE SPECIFICATIONS ON THE BACK OF THIS LABEL

Courtesy Chatham Manufacturing Company

Both sides of a blanket label are shown on these two pages. Note that specifications and instructions for proper care are included.

MINIMUM FIGURES ARE FOR THE TYPE OF BLANKET
CONSTRUCTION DESCRIBED ON FRONT OF THIS LABEL

CHATHAM MINIMUM STANDARDS		THIS BLANKET
SIZE Blankets should be long enough to tuck in well at the foot, and wide enough to hang down over the sides of the mattress. Extra size is always desirable.	Single Beds 66x80 Double Beds 70x80	72x84
WEIGHT The weight of a blanket contributes directly to its warmth, but the size should be considered as well as the climate in which the blanket is to be used.	8.4 oz. per sq. yd.	3 1/4 pounds, or 11.3 oz. per sq. yd.
DURABILITY The durability of a blanket is judged by the number of pounds "pull" it takes to break the warp and filling yarns. Higher tensile strength means longer wear.	Grab Method Warp—25 lbs. Filling—15 lbs.	Grab Method Warp—30 lbs. Filling—25 lbs.
WARMTH Thermal transmission tests the amount of body heat which escapes through blanket fabric. 100 points is average rating (for 3 1/2 lb., all-wool blanket), but higher point rating means greater warmth.	(after three washings) 90 points	(after three washings) 100 points
COLOR FASTNESS Color fastness in washing is graded as "Fair", "Good", or "Excellent". All blankets "bleed" in color slightly, and should be washed separately.	Blanket Color "Fair" Binding Color "Fair"	Blanket Color "Good" Binding Color "Good"
SHRINKAGE Shrinkage in washing or dry cleaning depends a great deal on whether proper instructions are followed, but it should not exceed 10% in width or length.	(Maximum shrinkage after 3 wash.) Length—10% Width—10%	(after three washings) Length—3% Width—2%

FOLLOW THESE INSTRUCTIONS FOR PROPER CARE

Make a rich, luke-warm suds using a mild soap. Use enough suds so that the blanket floats in the water. Wash separately. Don't rub the blanket fabric. Squeeze gently by hand—sciff out twisting—to expel excess water. Rinse several times in lukewarm water. Hot or cold rinses will shrink the fabric. Never twist blankets to expel water—hang evenly over the line and let them drip. Shape gently to even them and shake often while drying. Blankets should be stored in a tightly sealed box, packed with about one-half pound of naphthalene moth balls placed in and about each blanket.

CHATHAM MANUFACTURING CO., ELKIN, NORTH CAROLINA

ing threads to the surface where they can be easily napped. The weave should be firm enough so that the cloth is not stretchy and the threads do not slip. The breaking strength should be at least 15 pounds per inch in the filling and 25 pounds per inch in the warp.

The *nap* should be durable and not easily detached from the foundation cloth. Pull at the nap gently. If it pulls out easily, the blanket was probably napped too much. This weakens the yarns and makes thin places in the blanket. The napping should merely lift the ends of the fibers without injuring the yarns or weave.

The *weight of a blanket* is an indication of the amount of fiber used in its construction. However, two blankets cannot be compared for warmth by weight unless both blankets are made from the same kind of fiber. An all-wool blanket and a part-wool blanket cannot be compared by weight. Weight cannot be used for comparing blankets unless they are both exactly the same size. If you should find two all-wool blankets of the same fiber and exactly the same size but different in weight, you should choose the heavier one. If the two blankets vary considerably in price, you will have to figure out the cost of the wool per square yard, in order to get the best value for your money.

The *end finish* on your blankets should be firm and neat. Some blankets are finished with a lockstitch or blanket stitch. This is a satisfactory finish for lightweight blankets providing the ends of the thread are securely fastened.

Bindings are used on the heavier blankets and on some lightweight blankets. The binding may be cotton, rayon, or silk material. Cotton sateen is most durable but may not hold its color as well as the rayon or silk bindings. The binding should not shrink more than the blanket, thus causing puckered ends when the blanket is washed.

THE SIZE OF YOUR BLANKET

A blanket should be about 10 inches longer and 18 inches wider than the mattress. Smaller blankets are not large

enough to provide warmth or to stay tucked in without strain. A blanket for a twin bed should be at least 66 x 84 inches and the blanket for the double bed should be at least 72 x 84 inches. Many people prefer larger sizes for comfort and convenience.

GOOD QUALITY IN BATH TOWELS

The shopper for towels wants durability, drying capacity, and attractive appearance. Many towels are selected entirely on the basis of pleasing design and color. Pretty, embroidered designs on the guest towels; nice, colored bath towels; and "cute" design on the dish towels are the only guides for selection used by many shoppers. Durability and drying quality are very important and should be considered if you expect to get good values in towels.

CONSTRUCTION OF BATH TOWELS

Bath towels are woven with *terry-cloth construction*. In this weave there are two sets of warp threads. One set of warp threads is called the ground warp and is woven in the usual way. The other set of warp threads is called the pile warp. As the weaving progresses, the pile warp forms loop pile on both sides of the cloth. The filling threads are woven in the usual way holding the warp threads in place.

There are two types of terry-cloth construction, single loop and double loop. In *single-loop construction* there is one pile thread to every ground warp. In *double-loop construction* there are two pile threads to every ground warp. This means that terry cloth with double-loop construction has twice as many loops per inch as single-loop construction. Since the loops are important in absorbing moisture, the towel with the greater number of loops generally has the greater absorptive power. However, very good towels are made with single-loop construction. In the good towels with single-loop construction, the threads are closely woven, so that the loops are close together. Single-loop and double-

Morning Glow TOWEL

"TEXTURA"

Distinguished by its raised block pattern, simulating expensive Jacquard weave. Fluffy absorbent terry loops. Lovely solid pastels—washfast.

NO. 8271

SIZE 22x44 in.

SEE REVERSE SIDE

QUALITY SPECIFICATIONS

Weights 8 oz. per sq. yd. and absorbs 30 oz. moisture per sq. yd. There are 396 loops and 102 yarns per sq. in. (warp 66, filling 36). Warp yarns resist 45 lbs. strain—filling yarns 45 lbs. per in.

All figures are average

This is the type of label suggested by the National Consumer-Retailer Council, Inc.

**SOLD ONLY BY
SEARS, ROEBUCK AND CO.**

2L412-5

Morning Glow TOWEL

"WINDSOR"

Beautifully rich . . . classically simple . . . to give that "luxury look" to your bathroom. Mercerized cotton rope-style border woven on special Dobby looms. Long English-type loops . . . washfast colors. Excellent for monogramming.

NO. 8049

SIZE 18x28 in.

SEE REVERSE SIDE

QUALITY SPECIFICATIONS

Weights 15 oz. per sq. yd. and absorbs 70 oz. moisture per sq. yd. There are 612 loops and 123 yarns per sq. in. (warp 72, filling 51). Warp yarns resist 55 lbs. strain—filling yarns 65 lbs. per in.

All figures are average

This is the type of label suggested by the National Consumer-Retailer Council, Inc.

**SOLD ONLY BY
SEARS, ROEBUCK AND CO.**

2L412-2

Courtesy Sears, Roebuck and Company

The label shown on this page and those on the facing page follow the recommendations of the National Consumer-Retailer Council. Notice that the specific qualities of three grades of towels are given. This helps the consumer to compare the three grades fairly.



"GOTHAM"

A terry towel featuring a solid color border seldom found at this price. Attractive colored checks due to special weaving process. Washfast colors.

NO. 8141

SIZE 22 x 44 in.

SEE REVERSE SIDE

**QUALITY
SPECIFICATIONS**

Weights 10 oz. per sq. yd. and absorbs 40 oz. moisture per sq. yd. There are 480 loops and 116 yarns per sq. in. (warp 80, filling 36). Warp yarns resist 35 lbs. strain—filling yarns 40 lbs. per in.

All figures are average

This is the type of label suggested by the National Consumer-Retailer Council, Inc.

**SOLD ONLY BY
SEARS, ROEBUCK AND CO.**

21412-8

Courtesy Sears, Roebuck and Company

loop construction are sometimes referred to as single-thread and double-thread construction.

Some Turkish towels are made with single-ply and some with two-ply yarns. Single-ply and two-ply yarns here are the same as in cotton socks. A yarn made by twisting a single strand is single-ply, and a yarn made by twisting two strands is two-ply yarn. Towels of better quality are frequently made with two-ply yarns in the warp threads. The two-ply yarns are more tightly twisted, and this adds strength where it is most needed.

Closeness of weave is important to good quality in bath towels. The more closely the warp and filling threads are woven, the more pile threads are held in between them. Always look for a firm foundation cloth in your bath towels. If you should count the threads, you would find that good towels may have twice as many threads to the inch as poor towels.

The *pile loops* determine how much, and how quickly, moisture can be absorbed by the towel. The pile loops should be soft and not too tightly twisted in order to absorb moisture easily. Loops about one-eighth inch long are considered best. Shorter loops do not offer enough surface to absorb water readily, and longer loops are likely to catch and pull out although they do add to the absorptive capacity.

The *edges of bath towels* should be strong. The best finish for the sides is a strong, firmly woven selvage. Unless the selvage is firmly woven the threads soon fray out with use and shorten the life of the towel. The sides of some low-grade bath towels are finished with the lockstitch. This type of finish is seldom durable on a towel and results in badly frayed edges. In examining the selvage edges look to see if the filling threads are wrapped around the last warp thread. This is the strongest kind of selvage. Ends of the bath towel should be finished with neatly turned hems. The stitching should be firmly fastened at each end.

Study the three bath-towel labels shown on pages 324 and 325 for these points concerning quality.

COLOR AND DESIGN IN BATH TOWELS

Years ago all bath towels were plain white. Then a manufacturer made some towels with colored borders in pretty designs. These proved very attractive to consumers who like color and design in their bath towels. There are now more bath towels with color than without. Some towels merely have color stripes, some have wide decorative colored borders, and some are solid colors. Experiment has shown that the colored bath towels have less power to absorb moisture than white ones, but the colored ones seem to absorb enough moisture to be fairly satisfactory.

THE SIZE OF YOUR BATH TOWEL

There was a time when bath towels were made in 96 different sizes. This made it very difficult for the housewife to find out whether she was getting her money's worth in bath towels. Under such conditions it would be necessary to figure the cost of your bath towels per square inch in order to find out which towel gave you the best value. At the present time bath towels are made in only six sizes. Manufacturers, in co-operation with the Division of Simplified Practice of the National Bureau of Standards, agreed to make bath towels in only six sizes. The sizes are as follows:

Small: 16 x 30	Medium: 20 x 40	Large: 24 x 46
18 x 36	22 x 44	24 x 48

Obviously, the size of a towel affects both its price and its usefulness. When the quality of the fabric is the same, large towels cost more than small ones.

Large towels are not always more desirable than smaller ones. If the laundry is paid for by the pound, large towels run up the laundry bill. Large towels are sometimes too large and bulky for convenient use, especially for children. Choose the size towel which seems most convenient and useful.

In considering the size of a bath towel remember that the loop surface of the towel is the part with the drying capacity. Wide, plain-woven borders reduce the size of the looped surface. Remember also that towels shrink considerably in the first few washings. They may shrink as much as 14 per cent.

NATIONAL CONSUMER-RETAILER COUNCIL LABELS

There is one important organization which tries to promote informative labeling on consumer goods. The National Consumer-Retailer Council was organized in 1937 for the purpose of encouraging better relations between the consumer and the retailer. Membership includes such consumer organizations as the American Home Economics Association and the American Association of University Women; and retailer organizations, such as the National Retail Dry Goods Association and the National Shoe Retailers Association. The National Consumer-Retailer Council (NCRC) has a Labeling Committee which has made a careful study of informative labeling. As a result of this study, the Labeling Committee has proposed a "Master Label Outline" which manufacturers and retailers can use in formulating the labels for their goods. The "Master Label Outline," shown on page 330, includes all the points which consumers want to know about. In our study of consumer goods we have discussed performance, or "What it will do"; composition, or "What it is made of"; and construction, or "How it is made" with reference to each commodity. If we could find labels made according to this plan on all our consumer goods, we could shop much more intelligently and get much better values for our money.

The NCRC label is now used on a number of consumer commodities. It is most helpful when used on two or more price lines of the same commodity. For example, the labels on pages 324 and 325 are used on three qualities of bath towels sold by the same company. By comparing the specifica-

tions of each towel as given on the label you can find out what you are getting for your money in each case.

GOOD QUALITY IN TABLE LINEN

The finest of all cloths for the dining table is linen damask. It is usually woven in floral or geometric patterns, and may be bought in various widths by the yard or pattern cloths. In the days of our ancestors all table damask was white, but now it may be bought in white, cream color, or pastel shades. The best table damask is made from "line" flax which is long fibered. Lower grades of damask are made from tow flax which is short fibered. The damask made from tow is not so beautiful or durable as that made from linen flax. The short fibers make coarse, uneven yarns and a less lustrous surface.

Table damask is also made from cotton and from combinations of linen and cotton. Some cloths are made from rayon or part rayon. Long-staple cotton fibers can be made into good quality table damask. Indeed the best cotton damask is better than poor linen damask. Short-fibered cotton is not desirable for table damask because the fiber ends make a fuzzy surface which is not pleasing in damask. Rayon is well suited to produce the pattern weave and lustrous surface of table damask, but not so well suited for the use which is expected of a tablecloth. Frequent launderings and the removal of spots and stains may cause a rayon cloth to wear out before either cotton or linen cloths.

When you buy table damask look for the label which states the fiber content. If there is no label, ask the salesperson. If the cloth is made from a combination of fibers, ask for the percentage of each fiber. Small amounts of linen fiber are not worth any additional price.

Table damask may be either single or double damask. In single damask there is the same number of warp and filling threads. A medium quality of single damask might have a thread count of 150, or 75 threads each way. Double dam-

MASTER LABEL OUTLINE

PURPOSE OF AN INFORMATIVE LABEL

The purpose of an informative label is to enable the consumer to buy wisely and the store to sell intelligently, to the end that the consumer gets the maximum satisfaction for the money expended and the store handles the transaction with the minimum possibility for returns and adjustment. An informative label should give the consumer a *definite* idea of the quality of the product by telling its composition and construction, what it will do, how to use it, and how to care for it—as a basis for intelligent choice, and to enable her to compare qualities. A definite idea can only be conveyed by *specific* facts. It is suggested that these facts be grouped under the six headings listed below. *The order and the form used here are not significant.*

OUTLINE FOR INFORMATIVE LABELS

It is understood, of course, that labels should conform to local, State or Federal regulations where such exist.

WHAT IT WILL DO (Performance)

Degree of color permanence; shrinkage or stretchage; breaking strength; seam slippage; resistance to water, perspiration, wind, wear; light, heat and power tests; power consumption; cost of upkeep; etc.

WHAT IT IS MADE OF (Composition)

Kind and quality of fiber, metal, wood, leather, ceramics, cement, rock, fur, plastics, petroleum products, rubber, paper, bone, chemicals, drugs; ingredients of food products; etc.

HOW IT IS MADE (Construction)

Size, weight, number of yarns per inch, weave, number of stitches per inch, finish, ply, cut, hand or machine made, pressed, molded, stamped, inlaid; etc.

HOW TO CARE FOR IT

Detailed instructions for washing and/or cleaning; precautions to be observed in cleaning or in storage; refrigeration; oiling and greasing; polishing; etc.

RECOMMENDED USES

Purposes for which it is most suitable; recipes; etc.

NAME OF MANUFACTURER OR DISTRIBUTOR

Name and address of the manufacturer or distributor.

ask has 50 per cent more filling threads than warp threads. This makes the pattern stand out more clearly because of the extra floats. However, single damask is better wearing because the floats are shorter and held in more firmly. Good double damask should have at least 200 threads to the inch. Always ask about the thread count when you buy table damask.

LUNCH CLOTHS AND DOILIES

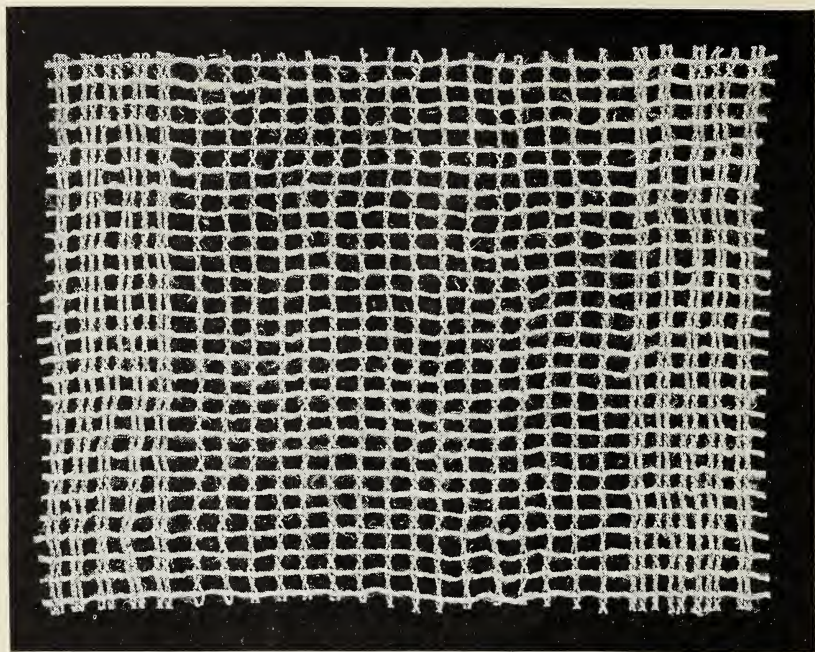
Most people do not use damask for their everyday meals: It is saved for special occasions. Tablecloths, lunch cloths, and doilies are made from many materials. Art linen, crash, "Indian Head," and various other cotton materials are used for doilies and napkins. Recently plastic mats have appeared for use as place doilies. Whatever fabric is chosen should have enough body to lie flat on the table. It should not wrinkle and slip easily as dishes and silver are moved about.

Whatever fabric is selected for use on the dining table examine it for firmness of weave. Use the same tests for slippage and firmness that you learned to use for dress and suit materials.

GOOD QUALITY IN CURTAINS AND DRAPERIES

The fabrics which hang at our windows should meet certain requirements. Many times they are chosen entirely for their design and color with no thought for durability and service. Wearing quality, colorfastness, and washability are just as important in these fabrics as in other household textiles. To be intelligent about your selection of curtain and drapery materials you should understand the special features of their construction.

The first step in curtaining your windows is to decide what type of treatment they should have. You may decide to have thin glass curtains, or heavy drapes which hang at the sides, or both. Thin glass curtains are best for windows where you wish to shut out an ugly view or shut off the view from the outside. Thin glass curtains are desirable also for



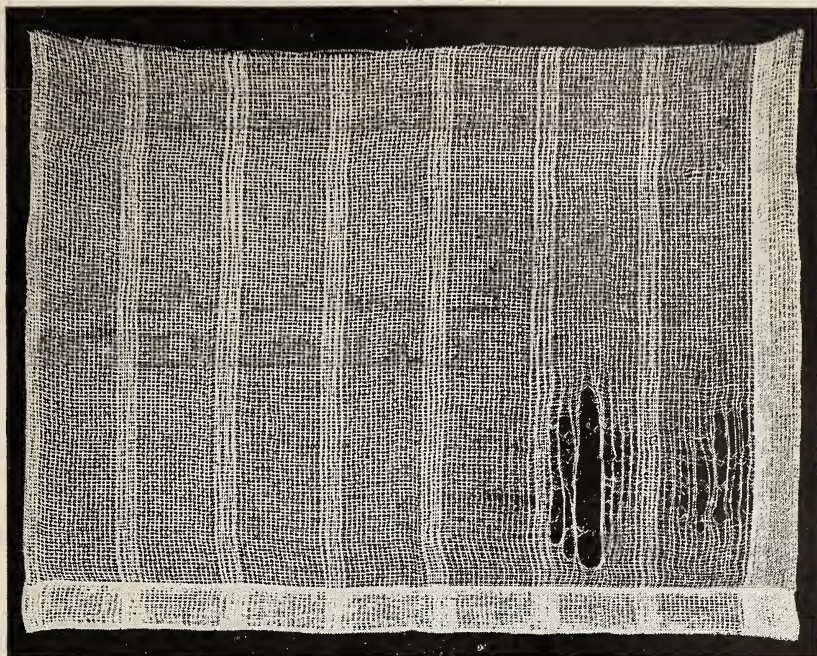
The leno weave is used in this curtain material. Note the twisted warp threads.

softening the glare of light. On the other hand, glass curtains are not desirable in localities where they soil quickly. In many cases thin glass curtains can be discarded in favor of draperies.

Good quality in thin curtain materials depends on well-twisted yarns and firmness of weave. Sheer materials are made with an open weave which leaves tiny spaces between the threads.

Scrim is a rather coarse curtain material made with the plain weave. Good scrim is firm and does not stretch out of shape easily, especially at the selvage edges. A kind of scrim made from linen yarn is called *theatrical gauze*. It has an interesting texture as the light shines through it, but it does not hang in soft folds in the same manner as some other sheer curtain materials.

Marquisette is a thin curtain material which is now made



Light has a destructive effect on thin curtain materials. The life of a glass curtain can be prolonged considerably by making headings at both ends so that the curtain can be turned end for end.

in both cotton and rayon. Marquisette is made with a variation of the plain weave called the leno or gauze weave. As you see in the illustration showing the gauze weave, two warp threads are twisted together. This holds the threads in place much more firmly than is the case with an open plain weave. When you buy thin curtain materials, look carefully to see whether the plain or leno weave has been used. You can expect greater durability and softness of folds from the leno weave.

Grenadine is thin curtain material also made with leno weave. Generally it is finer than marquisette and may have dots or figures woven into the fabric.

Marquisette and grenadine of good quality are made with about 800 meshes to the square inch. When you are select-

ing one of these materials look to see if the mesh is fine and free from fuzz.

Net for curtains is made in a variety of novelty effects. Cable net which has a coarse mesh is popular for window curtains. Net used for curtaining should be firm and not easily stretched out of shape. It should also be soft enough to hang in pleasing folds. Some nets are stiff because too much sizing has been used. This sizing washes out, leaving a fabric that stretches badly.

There are various other fabrics, such as voile and organdy, which are used for window curtaining. Whatever fabric you select, remember to test it for firmness, evenness of weave, and its quality of hanging in soft folds.

Drapery materials vary in type and character from handsome, expensive damasks to simple, printed cottons and homespun. The problem of selection involves the choice of a fabric which is harmonious in type with the rest of the room. A room which is elegant and luxurious in type may need damask draperies. A room which is more simple in type should have homespun, cretonne, or chintz. Almost any type of fabric can be adapted for drapery purposes. Cotton prints bought at the dress-goods counter, terry cloth intended for bathrobes, and bedspreads of various kinds are some of the fabrics successfully used for drapes.

POINTS ON BUYING CURTAINS AND DRAPERIES

In choosing curtains and draperies, remember the following points.

1. Look for firm, even weaves. Avoid stretchy materials.
2. Look for colorfast materials. Colorfastness to light is tremendously important in curtains and draperies.
3. In thin materials look for well-twisted yarns and meshes free from fuzz.
4. In drapery materials look for durable materials which will wash or dry-clean well. The problem of durability in drapery materials is not the same as in upholstery. There is

SERVISTAN

GUARANTEE



Moth-Off PROCESSED FLOOR COVERINGS

Guaranteed for 5 years against damage by moths or carpet beetles

Sears, Roebuck and Co. fully guarantee this all wool face Servistan floor covering against moth or carpet beetle damage for a period of five years. It has been scientifically treated by Sears exclusive MOTH-OFF process.

Should any moth or carpet beetle damage occur within the five-year period, return your Servistan carpet or rug, before cleaning, with this guarantee to the store from which it was purchased. We will replace it with a new carpet or rug of equal value.

This special guaranteed genuine MOTH-OFF process

S E A R S , R O E B U C K A N D C O .

does not cover damage due to misuse, nor does it apply when tufts of wool have been pulled out or scratched out by dogs, cats or other pets. Such damages are not caused by moths.

IMPORTANT: When there is a surface unevenness due to straggly tufts of wool, never pull them out. Always clip them off to the level of the wool surface or pile with a pair of sharp shears. **REPAIR AND CLEANING OF YOUR SERVISTAN MOTH-OFF PROCESSED FLOOR COVERING.**

S E A R S , R O E B U C K A N D C O .

DATE PURCHASED _____ STORE _____

PATTERN _____ SIZE _____

Courtesy Sears, Roebuck and Company

A rug label which is a guarantee to the consumer.

no particular wear caused by rubbing and abrasion as in upholstery. Therefore, the damasks and other weaves with long floats are durable for drapery purposes.

5. In all curtain and drapery fabrics look for the quality of hanging in pleasing folds at the window.

GOOD QUALITY IN RUGS

Durability, color and design, and price are the chief problems in the selection of a rug. The consumer can judge the color and design without difficulty. The size of his pocket-book is well known to him. But the durability of a rug is hidden in its structure, and there are few labels to help the consumer. With study he can learn to distinguish between good and poor qualities. He can learn to judge the flexibility, ruggedness, density, and firmness of weave which are important factors in durability. The consumer should also learn to know the different types of rugs and the important characteristics of each.

TYPES OF RUGS

Some years ago rugs were judged by type. The consumer who bought a "Body Brussels" or a "Genuine Wilton" felt that she had the best of rugs. The type of rug has nothing to do with its quality. There are good and poor qualities in every type of rug. A good quality of any one type is better than a very poor quality of any other type. However, it is important for consumers to know the principal types of rugs and how they differ from one another.

The *velvet rug* is made with the simplest type of weave. It has a cut pile and is made mostly in plain colors. Pattern in velvet rugs is made by printing it on the yarns before weaving. Generally, the patterns are not clear-cut. No yarns are carried underneath in making the velvet rug, so all the wool comes to the surface. The best values in velvet rugs are found in the plain colors. Mass production methods have made possible very durable velvet rugs at low prices.

The *tapestry rug* is made in the same way as the velvet rug except that the pile is left uncut. Few tapestry rugs are made at the present time.

The *Wilton rug* is made with a short, cut pile. Many Wiltons are designed with patterns. The method of producing the pattern differs from that used for the velvet rug. Instead of its being printed, the pattern is woven into the Wilton rug. If a design is made with three colors, rust, green, and yellow, there are three sets of woolen yarns—rust, green, and yellow—woven into the rug. When the yellow comes to the surface, the other two yarns are carried underneath. This means that there is likely to be more wool in a Wilton rug than in a velvet rug. The more colors there are in a design, the more sets of woolen threads are required, and the more expensive the rug will be. The pattern is clear-cut and distinct and never blurred as in patterned velvet rugs. The backs of Wilton rugs are flexible, but heavy and tough.

The *Brussels rug* is made in the same way as the Wilton, but the pile is left uncut. Few Brussels rugs are made today.

The *Axminster rug* is generally made in patterns. Different colors in the pattern are produced by the use of different colored yarns, but the manner of weaving the colors into the rug is different than in the Wilton rug. In the Axminster rug each tuft is put in and cut as the weaving progresses. No yarns are carried underneath which means that less wool is used than in a Wilton. It also means that Axminsters are on the average less expensive than Wiltons. Any number of colors can be introduced without difficulty. You can always distinguish the Axminster rug by the crosswise ridges on the back, and by the fact that the rug can be rolled only lengthwise and not crosswise.

A broadloom rug is not a distinct type of rug. It may be any of the types mentioned above, and it may be any quality, good or poor. The term broadloom refers to rugs which are woven on broad looms. The usual widths are 9, 12, 15, and 18 feet. The consumer can buy as many feet of any particular width of broadloom as she wishes.

The *American Oriental rug* is a term given to rugs made by machine in America with an Oriental type of pattern. The term American Oriental is inaccurate and should not be used. The rugs are just as American as any other rugs made here and should not be called Oriental. They may be made in velvet, Wilton, or Axminster weaves.

POINTS TO CHECK FOR QUALITY AND DURABILITY

There are several general points that can be used to judge quality and durability in any type of rug. Remember these points whether you buy Wilton, velvet, or Axminster rugs.

1. *Examine the density of the pile.* Fold back the corner of the rug so that you can see the foundation between the tufts. After you have tried this with several rugs you will see that the pile is much thicker in some rugs than in others. Thick pile means greater durability. The greater the wool content in a rug, the longer the rug will wear. This is true for all types of rugs.

Ask for the number of tufts per square inch. Sometimes this is expressed in *pitch* and *wires*. *Pitch* means the number of tufts per inch across the width of the rug. *Wires* means the number of rows of tufts per inch in the lengthwise direction. To get the number of tufts per square inch, multiply the pitch number by the wires number. Good grades of Wilton rugs have 90 tufts per square inch, and the poor grades have only 25 tufts to the square inch. Different grades of Axminster vary from 77 tufts to 28 tufts per square inch. Velvet rugs vary from 80 to 50 tufts per square inch.

2. *Examine the depth of the pile.* Very short tufts are not so durable as longer tufts. Short, thin pile soon wears threadbare. Consider the depth of the pile in relation to the density. Does the pile feel thick and heavy?

3. *Inquire about the quality of the wool.* Ask whether the rug is made from worsted or wool fiber. Worsted is expensive, but it looks well and wears well. Feel of the wool. It should feel springy and resilient.

4. *Examine the foundation of the rug.* It should be firm and pliable, and give the feeling of strength, not merely stiffness. Cotton, jute, and hemp are used for the backing of the rug. During wartime, paper yarns have been introduced as a substitute for the usual foundation yarns. Some yarns are sized before weaving into the foundation of the rug. This sizing should not be excessive.

5. *Ask if the rug is colorfast?* The consumer cannot possibly tell by looking at a rug whether the colors will fade or not. She should insist upon a guarantee from the salesman that the colors will not fade.

SUGGESTIONS FOR DISCUSSIONS AND ACTIVITIES

1. Collect advertisements and labels for sheets and pillowcases. Compare them for information which is of value to the consumer in selecting good quality.

2. Use a magnifying glass or reading glass to study weaves of sheets, bath towels, and curtain materials.

3. Invite a rug expert to come and talk to your class.

4. Collect samples of curtain and drapery materials. Compare these for quality and attractive appearance.

5. Appoint a committee to report on the production of the linen fiber and how it is prepared for use in table linen.

6. Appoint a committee to make a report on Oriental rugs.

YOUR CONSUMER INVESTIGATIONS

1. Find out what it would cost to buy 6 sheets and 6 pillowcases for your own bed. Decide what size and what type of sheet would be desirable. What kind of sheets and pillowcases sold in your stores do you consider the best buy? Why?

2. Find out about prices on bath towels in your stores. Get prices for the most expensive and the least expensive towels. Be sure to get all information possible about construction and weight of the yarns used. What towels do you consider the best buy? Why?

3. Get prices on 9 x 12-rugs of three types—Axminster, Wilton, and velvet. Get all possible data about each rug. Which do you consider the best value for the money? Why?

BUY ACCORDING TO PLAN

OUR study of the consumer problem so far has been concerned with good and poor qualities in certain types of consumer goods. Consumers are concerned with the quality in all the commodities which they buy, but there is not space in this book to consider quality in all the different kinds of things which consumers buy. What you have learned about quality in the commodities studied in the preceding chapters will help you to select good quality in a great many other kinds of commodities which you will need in daily living.

There is another consumer problem which is just as important as good quality. It is the consumer's choice of commodities. No consumer wants or needs all the different kinds of consumer goods that are offered for sale. The man who lives in a city apartment has no need for a farm tractor and the man who lives in the tropics has no desire for long underwear. Most consumers are limited in their purchase of consumer goods by the size of their pocketbooks. This constitutes a most important consumer problem. Unless he chooses the things which he needs and wants most, the consumer does not get good value for his money. Individuals and families are constantly making choices of what to buy. This may mean a choice of desserts for dinner or some evenings at the movies. It may mean a choice of a new blanket or a War Savings Bond. There are dozens of such choices imposed by the size of the pocketbook. It is worth while to consider a basis for making these choices and to apply the proper guides in making selections.

WHAT YOU BUY WITH YOUR MONEY

What you buy with your money depends upon the kind of life you live and the kind of person you are. Some things you buy from necessity and some from choice. Food, shelter, and clothing are always necessities of life. You must eat to live, you must have clothing to keep warm, and you must have shelter for protection from the weather. Just what kind of food, shelter, and clothing you need will depend upon your manner of life. If you live on a western ranch you probably will not buy the same kind of food, shelter, and clothing that you would buy if you lived in a city apartment. If you live an active life on the ranch you would eat larger quantities of hearty food than if you held an office job in the city. You would wear sturdy work clothing more frequently and own fewer street and formal clothes on the ranch than in the city. You would live in a house surrounded by open country instead of in a few rooms surrounded by dozens of other rooms occupied by other people.

In each case your money would buy the kind of food, shelter, and clothing which is required by your kind of life. A certain portion of our money is always spent for these necessities. Exactly how much we spend for them is determined by our particular desires. Most of us spend more for food than is required to keep us alive and healthy. We spend more for our shelter than is essential to keep us warm and safe, and we spend more for our clothing than is necessary to keep us well covered.

There are several reasons why we spend these extra dollars beyond what is necessary to obtain the bare essentials of life. First, we buy because of *social pressure*. We like to have what our friends and neighbors have. If the people with whom you work and play live in a certain type of city apartment, if they take occasional meals in restaurants, frequently buy soda pop and ice cream sundaes, and wear up-to-the-minute clothing, it is quite likely that you will wish to live the same kind of life and have the same things.

Second, we spend more money than is required for the bare essentials of food, shelter, and clothing because we desire *additional convenience and comfort*. The human race is not satisfied with mere existence. It desires life that is pleasant and comfortable to the greatest possible degree. The city dweller wants more than four walls and a roof in his apartment. He wants a sun porch, elevator service, and fine mahogany furniture. He may even aspire to a penthouse. The ranch dweller wants more than a little two-room cabin. He wants more rooms, electric lights, water piped into the house, and lawns and gardens.

It is characteristic of most people to desire the luxuries of life. Our wants are never at a standstill. What was once in the luxury class has now become a necessity. Our forefathers lived all their lives in houses without running water, electric lights, or central heating, but for most of us these things have become necessities. It is not possible to draw a sharp dividing line between necessities and luxuries. What is a luxury for one person may be a necessity for another. It is your own problem to decide whether you spend for necessities or for luxuries and whether the expenditures are justified.

Third, we spend for *the purpose of increasing our earning capacity*. The city girl may take a secretarial course in order to fit herself for the job she wants in a business office. The ranch boy may take a course in agriculture in order to learn how to get better returns from the ranch. There are many types of educational courses which you can buy with your money in order to increase your future earning capacity. In many kinds of work people continue to take additional training from time to time in order to keep their efficiency at a high level. Teachers, doctors, and workers in many fields spend their money for books, equipment, and education which will improve their work. This kind of spending certainly cannot be classed as luxury spending. It may or may not be spending for necessity, depending upon the case.

Fourth, we spend for *personal enrichment*. We want

beauty of environment and richness of experience in our lives. We like pretty dishes on the table, pictures on the walls, fancy buttons on our clothes, and ribbons on our hats. We like music and plays and books and games. For these things we are willing to spend our money. Such spending is not necessary to keep us alive and healthy, but some of it is necessary to keep us successful and happy. Just how much money should be spent for personal enrichment depends on the size of the income and your own requirements. Spending for personal enrichment includes spending for recreation. This does not mean that every penny spent for pleasure should contribute directly to the improvement of your mind or physical welfare. All of us need genuine pleasure and relaxation in our lives, and some of our money should buy it for us.

THE STANDARD OF LIVING

The standard of living has been defined as “consisting of those goods and services which an individual, family, or social group is accustomed to enjoy and which it considers so essential to respectable existence that it is willing to make any reasonable sacrifice to obtain them, such as postponing marriage, limiting the size of the family after marriage, or working longer hours.”¹ Standards of living vary in different countries, in different communities in the same country, and among different families in the same community. The standard of living may vary within the lifetime of the same individual. America enjoys a higher standard of living than any other country in the world. This means that the average American can obtain more goods and services for himself than the average citizen of any other country. This is true because under ordinary conditions Americans have larger incomes than the people of other countries and are able to buy more goods and services. Therefore, the American standard of living is high. During wartime this standard

¹ Bigelow, Howard S., *Family Finance*, J. B. Lippincott Company, 1936, p. 39.

of living is reduced for two reasons. Because of high prices many people cannot buy so much with their money; and because production of many goods and services are curtailed, even people who have the necessary money cannot obtain the goods and services.

Generally, the standard of living is considered high or low according to the amount of goods and services which the income will purchase. A low standard of living includes only the physical necessities of life and few if any luxuries. Expenditures for medical and dental care, security for old age, education, and recreation are not possible without serious injury to the physical needs and welfare of the family.

For the family with low income there can be little choice as to what the money shall buy. Food, shelter, and clothing necessary for existence must come first. For the family with moderate or high income there can be considerable choice. After the food, shelter, and clothing have been paid for there is still money which will buy education, recreation, and the luxuries of life. The family can choose whether to buy a new kitchen range or take a two weeks' vacation at the lake, or whether to buy new furniture or new winter coats.

The individual standard of living is affected by the standard of living of the family and the group with which the individual lives. However, each individual who can spend any money at all aside from that which is spent for the necessities of life, can choose what his money will buy. A boy may prefer a model airplane with a motor to a new suit. A girl may want new shoes with high heels instead of a season ticket to the concert series. Father may want a new shotgun instead of a trip to the city. Mother may want a new kitchen mixer instead of a new hat. There is seldom enough money to buy all the things that we would like to have. Therefore, a choice becomes inevitable.

LET YOUR MONEY BUY LASTING SATISFACTION

Since most of our pocketbooks are not big enough to satisfy all of our wants, it is important that we choose to buy

the things which will bring us the greatest and most lasting satisfaction. All people do not find genuine satisfaction in the same things. One boy may want to use his money to buy materials for a model airplane; another may find great satisfaction in spending his money for fishing tackle. One girl may prefer to use her money to buy pretty clothes; another may use her money for a business course. No rule can be laid down for making such choices. It depends on individual interests and abilities.

The first point in spending for permanent satisfaction is to know what you want most for your money. In the case of the two boys who wanted a model airplane and fishing tackle and the girls who wanted pretty clothes and a business course, each knew exactly what he or she wanted. This is not true with some people. They spend their money for whatever happens to appeal to them at the moment. They have no special interests or hobbies which they desire to satisfy. Generally, it is the people who have definite goals in life who manage to get the best returns for their money.

The second point in spending for permanent satisfactions is to be sure that your goal is a worthy one. We might question the choice of the girl who desired pretty clothes more than anything else. Certainly every girl should have pretty clothes, but she should also have other interests which will provide more permanent satisfactions in her life. If she spends all her money on clothes, she can hardly expect it to bring lasting satisfaction. The clothes wear out and go out of style. Of course, she has the satisfaction of knowing that she was well dressed, but perhaps she could have been well dressed without spending all her money on clothes. The girl who spends only part of her money on dress, and saves until she has money for a business course has obtained far more lasting satisfaction in her life.

Spending for lasting satisfaction is just as important to older people as to young people. Careless spending from day to day, with no plan for the future is not likely to bring permanent satisfactions. Expensive food on the table, the

latest model automobile, tickets for every show, and the latest thing in clothes do not bring the most genuine satisfaction. Unless there is enough money for emergencies, such as illness and accident, security for old age, and for good hobbies, this type of spending is most unfortunate.

Any discussion of spending always leads to one conclusion: Plan your spending to include all your wants, and to get what you want most for your money. Everyone should have an individual plan for spending which will cover his or her particular needs, and every family should have a plan for spending which will cover the family needs. This plan for spending is called the budget.

PLAN YOUR OWN BUDGET

Every boy and girl should plan a budget as soon as he receives an income which is large enough to cover even a small part of his expenditures. A girl who receives seventy-five cents a week for carfare, movies, and incidental expenses can make a budget. First, she should set aside the fixed amounts which she knows will have to come out of her seventy-five cents each week. These items will probably include carfare, contributions, and savings. Whatever is left can be spent for the things she wants most. If she is saving for a special purpose such as a tennis racket or pair of skates, she will set aside a certain sum each week for this purpose.

When boys and girls enter upon their first full-time jobs, their personal incomes increase considerably in most cases. The girl who received seventy-five cents a week for her small expenses now may receive \$15 a week. This seems like a very large increase until she remembers that her expenses have also increased. Now that she is earning her own money she will pay her own expenses. These will include clothing, lunches, recreation, savings, and carfare. If she lives at home she will wish to contribute her share for food and rent. A personal budget will help her to get the most for her money.

A budget is a plan for future expenditures. It can be



Courtesy H. Armstrong Roberts

Keeping accounts of expenditures and planning a budget help you to get your money's worth.

planned a month, six months, or a year ahead. The budgets for longer periods make better provision for seasonal purchases such as winter and summer clothing, vacations, and gifts at Christmas.

There is no one type or pattern of budget which is desirable for all people. Each budget should be custom-made to fit the requirements of the particular income and wants of the individual. It is not advisable to say that all girls earning \$15 a week should spend the same amount for clothing, lunches, board, and room. Each girl will have certain expenses which generally cannot be altered to any great extent. What she does with the rest of her money depends upon her special interests. One girl may be saving for a college education, another may be taking music lessons, still another may be buying furniture for her own room. Every budget should include expenditures for a worth-while goal. Careless spending when the spender does not really know where her money goes is most undesirable. Under these conditions she never gets the most for her money.

There are two parts to planning and using a budget. First, divide your income for whatever period of time you wish to cover into the various amounts that you desire to spend for different purposes. In the sample budget form on page 349 you can see how one girl divided her \$15 a week among several expenditures. Second, record your daily expenses in the proper spaces, as shown in the sample budget. The totals at the bottom of the columns should be approximately the same as the amounts set aside for each type of expenditure. By comparing these amounts you can see how successful you are with your budget.

In the case of certain items such as clothes, recreation, and doctor and dentist, the weekly totals at the bottom of the columns will rarely correspond to the estimated expenditures at the top. The purchase of a new suit may cause the expenditure of \$19 on one day. This will far exceed the \$2 at the top of the column. So the expenditures for clothing will have to be greatly reduced or eliminated for several weeks

Sample Individual Budget

<i>Income—\$15 per week</i>				<i>\$390 for 26 weeks (6 months)</i>			
	<i>Board and Room</i>	<i>Lunches</i>	<i>Carfare</i>	<i>Clothes</i>	<i>Savings</i>	<i>Recrea- tion</i>	<i>Doctor Dentist</i>
<i>Estimated amount</i>	\$130	\$39	\$32	\$50	\$40	\$84	\$15
<i>Estimated weekly spending</i>	\$5	\$1.50	\$1.25	\$2.00	\$1.75	\$3.00	\$.50
<i>(Date)</i>							
Totals							

to balance the clothes budget. Many weeks may pass with no expenditure for the doctor or dentist, but the fifty cents allotted each week for this purpose should be kept and added to a reserve fund for this purpose.

Keeping a budget is a matter of simple arithmetic and can be fun for the person who makes a good plan and sticks to it. There are certain advantages to a budget.

1. It will prevent you from spending carelessly and later wishing that you had spent differently.

2. It will show you the past, present, and future state of your finances. If you have spent more than you should in the

past, you can see where you can best cut down on your expenditures in the future.

3. It will help you to live within your income. This will give you a kind of independence and self-respect which is very worth while.

4. It will help you to plan more wisely in the future. When you see where your money has gone in the past, you may wish to spend differently.

THE FAMILY BUDGET

The general procedure for making and using a family budget is the same as for the individual budget. Usually the family budget is planned on a monthly basis for six months or a year. The form on page 351 shows the type of expenditures customary in most families. Some of these expenditures are fixed at the same amount every month. After the total amount of fixed expenditures has been deducted from the income, the remainder can be divided among other items. Different budget headings are required for different families. If the family lives in an apartment where the heat is supplied as part of the rent, there is no need for a column headed with the item for heat. If the family employs help, then a column must be added for that item. Anyone can easily make a good budget book for the family by adapting one which has printed headings, or by filling in the desired headings in a blank book.

The meaning of each item should be clearly understood. Housing includes rent, taxes, mortgage payments, repairs, and house insurance. Education may include books, music lessons, tuition, and similar items. Charity includes church contributions and donations to various charities. Amusement includes movies, vacations, fees for swimming, and such expenditures. Savings include life insurance, bonds, war saving stamps, savings accounts, and payments to savings associations.

Family Budget

[illegible]

TRY THE BUDGET PLAN

Every individual and every family that has an income large enough that there is any choice about expenditures will profit by planning and using a budget. The advantages to the family budget are the same as those for the individual budget. Of course, the budget will not be helpful unless it is intelligently planned and then followed. When you make a budget, do not give it up until you have given it a fair trial.

Planning and using the individual budget is a matter for the individual alone, but planning and using the family budget is a matter concerning all the members of the family. Each member of the family who is old enough to understand the purpose of a budget should have a share in its planning. The family budget is much more likely to be a success when all the members of the family have a fair share in planning and following it.

Various kinds of objections to budgets are made, generally by people who have not given them a fair trial. Some people say that budgets take too much time. This is true only if you try to keep a very elaborate kind of budget. A simple and useful budget need require only five minutes a day. Other people say that budgets are not helpful because they do not provide for emergencies. This is true if the emergency requires more than has been accumulated in the savings account. On the other hand, it is not likely that any other form of money management will provide for emergencies either. A budget plan can provide for some emergencies.

Perhaps the real objection that some people have to budgets is that they are afraid to face facts. The budget shows them all too plainly how much money they have and how far it will go. Some people prefer to believe that ignorance is bliss where money matters are concerned. They live in hopes that in some magic way their incomes will be large enough to cover all their expenses. This is like the person who is afraid to go to the doctor because the doctor will tell him what is wrong!

CASH, CHARGE, OR INSTALLMENTS?

Another type of consumer problem requires consideration by intelligent consumers. How should payment for goods and services be made? Will you always pay cash? Use charge accounts? Buy on the installment plan?

Paying cash is the simple plan satisfactory in many ways to both consumer and merchant. The consumer who pays cash is not tempted to buy what he cannot pay for, and frequently he saves money. The merchant likes to receive his money promptly so that he in turn can pay for his own purchases without seeking further credit and extensions of time. The cash-and-carry stores are organized on the principle that prices for consumer goods can be less when they do not include service charges. The merchant who provides a credit system for his customers must necessarily employ credit men, bookkeepers, and file clerks. Their salaries and any other costs incurred by the credit system must be covered by the prices charged for goods sold to customers. On this basis it is only fair that consumers who pay cash and carry their own packages should pay less than consumers who receive these services.

For some consumers charge accounts are advantageous. Some people do not like to carry about large sums of money which is necessary for payments in cash. Statements rendered to charge-account customers on the first of every month help consumers to keep a complete record of their expenditures. On the other hand some consumers find a charge account is a temptation to overspend. When you do not have to hand out the actual money for your purchases, it is easy to buy more things than you can really afford. Consumers who use charge accounts should use them intelligently. They should also understand that in many cases the prices which they pay will be higher than prices for goods which are sold on a cash-and-carry basis.

Buying on the installment plan is a method of payment for consumer goods for which the consumer always pays an

extra service charge. Sometimes this charge is very large and sometimes reasonable. There are certain advantages to some consumers in installment buying. Consumers should understand the charges and the conveniences involved in installment buying.

WHEN YOU BUY ON THE INSTALLMENT PLAN

Merchants have learned that it is difficult for many consumers to save enough money to pay cash for expensive consumer goods. Automobiles, mechanical refrigerators, kitchen ranges, furniture, and clothing are sold on the monthly-payment plan. The purchaser makes a down payment and agrees to pay a certain sum each month for a stated number of months. For this convenience the consumer pays a carrying charge to the merchant. These charges are generally confusing to the consumer who seldom knows how much he pays for the privilege of buying on the installment plan. Certainly it is fair that the merchant should receive payment for lending money to the consumer, but *how much* he should receive is another matter. There are several different plans in use for computing finance charges in installment buying. Usually these charges are stated in such confusing terms that the consumer cannot possibly tell just how much he is paying for the carrying charge.

Here is the way one plan of payment works. The consumer buys a set of living room furniture for \$132.50. He is required to make a down payment of 20 per cent or \$22.50. The twenty per cent of the purchase price for a down payment is a government regulation during wartime to discourage too much installment buying. It is always advisable to have at least 20 per cent of the purchase price when buying on the installment plan. The buyer is told that the carrying charge is 6 per cent of the purchase price—which is \$7.95. He pays this \$7.95 along with the original down payment of \$22.50. This seems like a reasonable charge until the buyer figures out the true rate of payment. He has paid six per cent

on the whole purchase price, which should mean that he has the use of the whole \$132.50 for one year. But he has already paid \$22.50 and will pay \$10.00 a month for eleven more months. If he were really paying at the rate of 6 per cent, the charges should be as follows:

DATE OF PAYMENT	UNPAID BALANCE	INTEREST AT 6% FOR ONE MONTH
March 1	\$110	\$.55
April 1	100	.50
May 1	90	.45
June 1	80	.40
July 1	70	.35
August 1	60	.30
September 1	50	.25
October 1	40	.20
November 1	30	.15
December 1	20	.10
January 1	10	.05
		Total <u>\$3.30</u>

Instead of paying 6 per cent on his debt, the purchaser is really paying more than twice that amount. Remember that he does not owe the whole \$132.50 at any time during the transaction.

When you buy on the installment plan be sure that you are not paying an exorbitant carrying charge. In most contracts for purchases on the installment plan, the goods remain the property of the seller until the final payment is made. In case the purchaser cannot complete his payments the seller can take back the goods with no refund to the purchaser. The seller then sells the goods again and thus makes a very high profit. Be sure you know the terms of your contract. In some contracts the buyer assigns his wages in payment for the goods without knowing what he is doing. This means that the seller can collect the installment payments from the employer of the buyer.

Most dealers who sell on installments are honest and fair

with consumers, but there are some who engage in very sharp practices. The best policy for consumers who wish to buy on installments is first to make sure that they are dealing with a reputable firm and then be sure they understand the terms of the contract. Read the contract yourself, and be sure that the meaning is clear to you. Practically all contracts protect the dealers—which is only fair—but buyers also should have their rights protected.

BENEFITS AND DANGERS IN INSTALLMENT BUYING

Installment buying has become a tremendous business. In 1941 the installment credit business nearly reached the 10-billion-dollar mark. This figure is amazing but may not be so interesting to the individual consumer as what installment buying means to him personally.

There are certain advantages to installment buying. (1) Installment buying is an aid to the buyer without sufficient cash to purchase an article for which he has urgent need. Emergencies arise when buyers are not prepared to buy the things which they need very badly. For them installment buying is a great help. (2) Installment buying is helpful to those individuals and families that cannot save enough money in advance to make purchases requiring large sums of money. Some people are unable to save systematically until they have sufficient money to buy such commodities as automobiles, refrigerators, and fur coats. Installment buying makes such articles possible for these people. (3) Installment buying probably helps this type of buyer to make more worth-while purchases than otherwise would be made. Perhaps the money required for monthly installments would be spent carelessly for unimportant purchases.

Buyers on installments should realize the dangers to their pocketbooks. (1) Buyers may be unable to complete the payments and will lose both money and goods. (2) They may be overpersuaded by high-pressure salesmanship to buy things which they cannot afford even on installments. (3)

Buyers are likely to pay exorbitant carrying charges. This extra money could bring better value to the buyer.

BEWARE OF TRICKS

When you are considering the purchase of an article on installments, beware of the seller who:

1. Will not give you an opportunity to read the contract before you sign it. Do not hesitate to ask for a copy which you can take home and show to someone in whose opinion you have confidence.
2. Uses high-pressure tactics in making a sale.
3. Refuses to give you a copy of the signed contract.
4. Does not give clear and definite figures regarding the carrying charge.
5. Asks you to sign a contract before all blank spaces are filled in.
6. Wants you to sign a contract which is unfair to the buyer.
7. Will not give you accurate information about the hidden values in the article which you are buying.

CONSUMER—REMEMBER WHAT YOU KNOW

All that you have learned in this book will be of no use to you unless you remember it when you go shopping. Here is a summary of the general points which intelligent consumers keep in mind. Getting good value for your money is not a simple matter. It requires a great deal of thought on the part of the consumer.

1. Decide before you leave home what type of article will suit your needs best.
2. Decide how much you can afford to spend. Plan your expenditures and stick to your plan.
3. Examine each article for quality and ask for information on hidden points.
4. Make use of all consumer aids such as informative labeling and seals of approval.

5. Know the state and federal laws which protect your health and pocketbook.

6. Compare different prices and qualities of the same article when possible.

7. Compare prices at stores with credit and delivery services with prices at cash-and-carry stores. Buy at the type of store which best serves your needs and your pocketbook.

8. If you buy on the installment plan make sure that you do not pay an exorbitant carrying charge.

9. Do not abuse your charge account and delivery services.

10. Do not waste your own and salespeoples' time because you cannot make up your mind. Learn to select what you want in as short a time as possible.

SUGGESTIONS FOR DISCUSSIONS AND ACTIVITIES

1. When is a bargain not a bargain? Good shoppers like to find good quality at a low price. Under what conditions would you not buy a good article at a bargain price? Give examples.

2. List the articles of clothing which you consider necessities to make you respectably and suitably dressed for the kind of life you lead. How would this list change if you were to move to another place where you planned to lead an entirely different kind of life?

3. Give some examples of purchases made for these reasons:

High-pressure salesmanship

Social pressure

Superadvertising

Impulsiveness

4. Make a personal budget for your own expenditures. Assume that you have an allowance which is sufficient to cover your expenditures for clothing, carfare, recreation, and education.

5. Make a list of all agencies mentioned in this book which function as consumer aids. Tell how each agency operates to help the consumer. Perhaps you will want to make a table showing consumer aids offered by various agencies.

6. What are the special consumer problems at the present time? Watch newspapers and news broadcasts for mention of consumer problems, especially proposed legislation. Discuss these problems in a forum session of your class.

YOUR CONSUMER INVESTIGATIONS

1. Investigate rates for installment buying in your local stores.
2. Appoint committees to find out about each of the following forms of savings.
 - War bonds and stamps
 - Insurance
 - Savings accounts
 - Credit unions
 - Building and loan associations
3. Secure data on prices of ten standard articles at cash-and-carry stores and at stores with charge and delivery services.
4. Report instances of good buying according to the points listed on pages 357 and 358. Also report instances of poor buying.

REFERENCES FOR FURTHER READING

- Agan, Tessie. *The House*. J. B. Lippincott Company. 1939.
- Andres, E. M. and Cocanower, C. D. *Economics and the Consumer*. Houghton Mifflin Company. 1942.
- Balderston, Lydia R. *Housewifery*. J. B. Lippincott Company. 1936.
- Baldwin, W. H. *The Shopping Book*. The Macmillan Company. 1929.
- Baxter, Laura, Justin, Margaret, and Rust, Lucile. *Our Home and Family*. J. B. Lippincott Company. 1943.
- Baxter, Laura and Latzke, Alpha. *You and Your Clothes*. J. B. Lippincott Company. 1943.
- Bennett, Harry. *More for Your Money*. Chemical Publishing Company. 1937.
- Bigelow, Howard F. *Family Finance*. J. B. Lippincott Company. 1936.
- Boren, Lyle H. *Fables in Labels*. National Capital Press, Inc. 1939.
- Brindze, Ruth. *How to Spend Money*. The Vanguard Press, Inc. 1935.
- . *Johnny Get Your Money's Worth (and Jane, Too)*. The Vanguard Press, Inc. 1938.
- . *Stretching Your Dollar in Wartime*. The Vanguard Press, Inc. 1942.
- Carter, Phyllis Ann. *Spin, Weave, and Wear*. Robert M. McBride and Company. 1941.
- Denny, Grace G. *Fabrics*. J. B. Lippincott Company. Revised 1942.
- Donham, S. Agnes. *Spending the Family Income*. Little, Brown and Company. 1937.
- Ephraim, Jerome W. *Take Care of Yourself*. Simon and Schuster. 1937.

- Gaer, Joseph. *Consumers All*. Harcourt, Brace, and Company. 1940.
- Hamblen, S. B. and Zimmerman, G. F. *Wise Spending*. Harper and Brothers. 1941.
- Heil, E. W. *Consumer Training*. The Macmillan Company. 1943.
- Hess, Katharine P. *Textile Fibers and Their Use*. J. B. Lippincott Company. Revised 1941.
- Hughes, Osee. *Introductory Foods*. The Macmillan Company. 1940.
- Kennedy, Ada and Vaughn, Cora. *Consumer Economics*. The Manual Arts Press. 1939.
- MacBride, Sarah and McGowan, Ellen B. *Fabrics and Clothing*. The Macmillan Company. 1931.
- McGowan, Ellen B. and Waite, C. A. *Textiles and Clothing*. The Macmillan Company. 1931.
- Monroe, Day, Kyrk, Hazel, and Stone, Ursula. *Food Buying and Our Markets*. M. Barrows and Company. 1938.
- Peet, J. L. and Sater, L. E. *Household Equipment*. John Wylie and Sons, Inc. Revised 1940.
- Phillips, M. C. *Skin Deep*. The Vanguard Press, Inc. 1934.
- Reich, Edward and Siegler, C. J. *Consumer Goods*. American Book Company. 1937.
- Reis, Bernard J. *False Security*. Consumer's Union, Inc.
- Shields, G. H. and Wilson, W. H. *Consumer Economics Problems*. Southwestern Publishing Company. 1940.
- Smith, Augustus H. *Your Personal Economics*. McGraw-Hill Company. 1940.
- Shultz, Hazel. *Housing and the Home*. D. Appleton-Century Company. 1939.
- Trilling, M. B., Eberhart, E. K., and Nicholas, F. W. *When You Buy*. J. B. Lippincott Company. 1939.
- ZuTavern, A. B. and Bullock, A. E. *The Consumer Investigates*. H. M. Rowe Company. 1938.

AGENCIES WHICH SUPPLY CONSUMER INFORMATION

There are several public and private agencies which publish various bulletins and pamphlets helpful to the consumer. If you are interested in obtaining further help on your consumer problems write to these agencies for lists of their publications.

Federal government agencies (Washington, D.C.):

Agricultural Marketing Service, U.S. Department of Agriculture.

Bureau of Animal Industry, U.S. Department of Agriculture.

Bureau of Human Nutrition and Home Economics, U.S. Department of Agriculture

Consumers' Counsel Division, U.S. Department of Agriculture. (Publishes *Consumers' Guide*.)

Federal Trade Commission

Food and Drug Administration, Federal Security Agency

National Bureau of Standards, U.S. Department of Commerce.

Public Health Service, Federal Security Agency

Agencies in your own state:

Department of Health

Department of Public Instruction

Department of Weights and Measures

State agricultural colleges.

Private agencies:

American Dental Association, 212 East Superior St., Chicago, Illinois. (Supplies information on dental materials free of charge)

- American Medical Association, 535 North Dearborn St., Chicago, Illinois. (Publishes *Cosmetics, Nostrums, and Allied Preparations*. Price 15c)
- American Association of University Women, 1634 I St. N. W., Washington, D.C.
- American Home Economics Association, 620 Mills Building, Washington, D.C.
- Consumers' Research*, Washington, New Jersey. (Subscription price, \$3.00 per year; other material available)
- Consumers' Union*, Vandam St., New York City. (Subscription price, \$3.00 per year; other material available)
- Institute for Consumer Education, Columbia, Missouri. (Publishes various consumer materials at a nominal price)
- Household Finance Corporation, 919 North Michigan Ave., Chicago, Illinois. (Publishes *Better Buymanship* booklets at 2 for 5c)
- National Better Business Bureau. Chrysler Building. 405 Lexington Ave., New York. (Publishes *Fact* bulletins.)

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